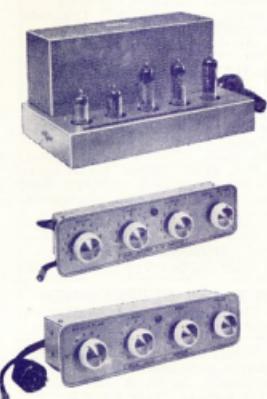


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THE CONTENTS

In Defence of Amateur Frequencies	3
Synchronous Communication—	
Part Three	5
T.V.I. Literature	7
Book Review:	
"Radio Amateur's Handbook"	7
"The Transistor"	7
"Short Wave Receivers for the Beginner"	7
Remembrance Day Contest, 1960	9
Amateur Call Signs	10
Ross Hull Memorial V.h.f. Contest 1959-60 Results	11
Feedback	11
Hints and Kinks:	
Panel Bushing from Potentiometers	13
Modulation Percentage Indicators	13
Back-lash in H.R.O. Tuning Condensers	13
A Word to the Wise	13
All Asian DX Contest	13
Correspondence	14
Overseas Tributes to Late John Moyle	15
DX	16
SWL	17
Prediction Chart for June '60	18
VHF Notes	19

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EDITORIAL

★

Recommendations for an Australian Federal Communications Commission

On 5th May in the House of Representatives during Grievance Day debate, the Honorable A. Fairhall, Federal Member for Paterson (N.S.W.), directed a recommendation to the Government that consideration be given to the establishment in Australia of a counterpart of the American Federal Communications Commission, and as a first step towards this end that the Government invite to Australia one of the American commissioners to advise as to how this problem should be tackled.

The American F.C.C. is an independent body empowered to deal with all communication problems in the United States of America including the allotment of operating frequencies to the various communication services.

The Amateur Service—which vitally interests us—is administered by the F.C.C., but in a far different manner to that existing in this country. Under an independent Commission the American Amateur has considerable say in his own affairs as a recognised international frequency user. Proposals to make variations in regulations governing the operation of Amateur Stations are published in a Federal Register, wherein all interested parties are invited to file comments for or against the proposal(s). The Amateurs are thus given the opportunity to give expressions of opinion in matters which concern themselves.

Proposals may be originated by the American Radio Relay League (the representative body of the Amateur Service) in the form of a petition to the F.C.C. But whether such proposals are originated by the F.C.C. or the A.R.R.L., the F.C.C. issues a document of proposed rule making which is published in the Federal Register, and it is only after individual and institutional comments have been thoroughly examined by the Commissioners (who are not themselves frequency users) that any order to amend Regulations under the Communications Act is implemented.

The American Communications Act incorporates Amateur regulations along with regulations governing the operation of all other frequency users and these are legally binding until such time as they are amended by a properly constituted procedure by which the frequency users have a powerful say in their own affairs.

Because Australia is a growing Nation with a bigger voice in international affairs, its system of dealing with communications, whilst having served satisfactorily since the introduction of radio as a communication media, is fast outgrowing its usefulness and is in dire need of complete overhauling.

The Wireless Institute of Australia as the nationally constituted organisation representing the internationally registered Amateur Service in Australia commends Mr. Fairhall for his stand on this matter and looks forward in the hope that the Australian Government will see the wisdom of his recommendation.

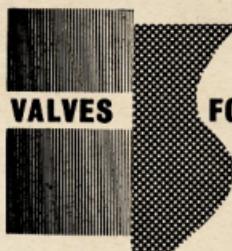
In the meantime the Postmaster-General, Hon. C. W. Davidson, O.B.E., has said that he will form an Ad Hoc Committee with wide constitutional facilities so that all the interests involved with the use of frequencies will have an opportunity to present their cases. In this regard Mr. Davidson has said that the Wireless Institute of Australia will have actual representation on this Committee and not merely be invited to send an observer. The W.I.A. assures all Australian Amateurs that it will be pleased to represent their interests on this Committee when it is formed.

FEDERAL EXECUTIVE.

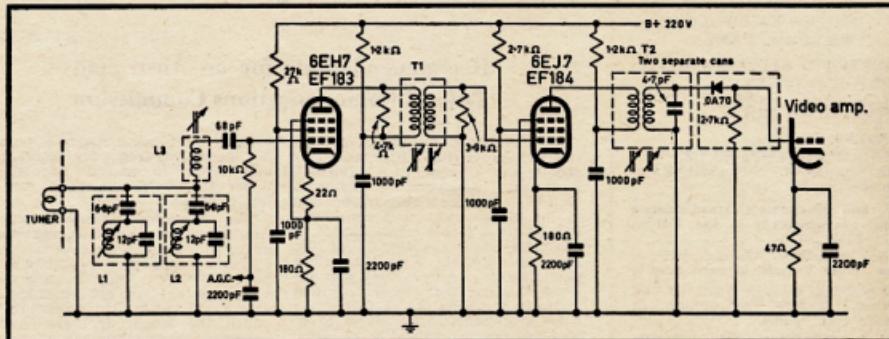
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I_a	12mA	10mA
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In Defence of Amateur Frequencies

For the information of Amateurs generally, we print herewith extracts from Hansard (5th May, 1960) indicating the support that has been given to Amateurs by Mr. Fairhall, M.H.R.; Mr. Costa, M.H.R.; and Mr. Wentworth, M.H.R.

Mr. Fairhall (Paterson).—Mr. Speaker, twelve months ago, the subject of the availability of frequency reservations to amateur radio operators in this country was a matter of hot concern in both Houses of this Parliament and on both sides of the Parliament. In the light of known proposals for the reduction of the frequency channels which the Postmaster-General's Department proposed to send on for consideration at the International Telecommunications Union Conference, in Geneva, last year, that was a reasonable thing. But I think it is timely and necessary to raise the question again, because, presumably, in the near future, the Government will have before it a submission from the department dealing with the results of the Geneva conference and moving for some form of ratification, as may be required. Therefore, cause a good deal of discontent over the outcome of the Geneva conference still lingers, I consider that there are some important matters which ought to be brought to the attention of the Government, and, perhaps, to the notice of the people of Australia, Sir. These matters are not confined only to amateur radio, and what has happened in this field gives rise to wider considerations.

I do not want to say much about the value of the amateur radio operator in peace and war—I think that is well understood—or, indeed, about the fact that amateur radio represents a training ground for electronic technicians in this country which is particularly valuable in view of the few opportunities available for obtaining experience of that sort. I propose also to pass lightly over the recognition given to radio amateurs, because it is well known that they are regarded as an international group, and that reservations have been made for them on an international basis by the International Telecommunications Union.

In the United States of America and the United Kingdom, amateur operators are considered of such value that the delegations sent to the Geneva conference by those countries fought hard, and, I am happy to say, retained for their amateurs the whole field of reservations for amateur operation. In the United Kingdom, amateur radio is encouraged as a source of operators for signals branches of the defence services, even to the degree that the Government provides equipment and pays something towards the cost of its maintenance. In Australia, in recent years, the president of the Wireless Institute of Australia—the organisation of amateur operators—was awarded an O.B.E.—the award of admission as an Officer of the Order of the British Empire in recognition of the splendid service given by the amateurs of this country during floods and bush fires on many occasions when the communication

facilities provided by the Postmaster-General's Department had been disrupted for some reason.

For years past, the Australian amateur has had available to him fewer frequency channels than are available to amateur operators in other English-speaking countries. In this connection, I wish to direct attention to a statement made on 7th May, 1959, by the Postmaster-General (Mr. Davidson). He said—

... my advice—and it is the best advice—is that Australian radio amateurs do not suffer by comparison with our American friends.

That statement is demonstrably untrue, Sir, and it can readily be tested. I have done that. The useful bands available to Australian amateur operators represent only 85 per cent. of those available to the American operators. On the channels best suited to international communication, which is the very life blood of amateur radio, they are restricted to 56 per cent. of those available to the Americans. If the Geneva conference decision is to be put into operation, including a restriction, applicable to Australia only, to which I shall refer presently, we shall be down to something like 50 per cent. of the space available to the Americans. Nor does that tell all the story, because the Australian amateur suffers disadvantages in respect of power and other matters as a result of conditions imposed on them by the Postal Department.

The point to which I wish to direct attention, and which I should like the Postmaster-General to note, is that when this matter was one of hot concern twelve months ago, honorable members on both sides of the House were given an undertaking, which I must accept as coming from the Minister's own department, that the Australian amateur would lose nothing further by way of frequency reservations unless such restrictions were demanded by the International Telecommunications Conference at Geneva.

Let me illustrate by taking one point—the band of frequencies available to amateurs on 80 metres. The Australian delegation took forward a proposal to reduce the Australian allocation from 300 kilocycles to 200 kilocycles. They put it before the conference, and we had no objection, but the conference rejected the Australian proposal. One would assume that that would be the end of that, but no, the Australian delegation then included what is called in convention parlance a "footnote". The footnote interposed into the articles of the convention the Australian restriction down to 200 kilocycle bandwidths. The inclusion of this footnote in the proceedings of the Geneva conference was, as I see it, and as many other members of this Parliament will see it, a repudiation of the undertaking given to the Parliament.

I hope that this does not indicate a state of mind in which this Parliament is to be held in contempt by a government department. I should like to hear what the Postmaster-General has to say about this. For my part, I cannot see

that this was other than a premeditated act of bad faith on the part of the administration. As such, I find it completely intolerable.

Various reasons have been put forward why Australian amateur reservations must be reduced. We have been told that there is a rising demand for frequency channels for other communication services. Of course, that is perfectly true. Quoting the Postmaster-General's own figures in relation to the aeronautical field, the applications have risen from 59 to 172; but in this field, the United States of America manages to operate 81,000 transmitters. Some of our members were concerned that if the amateur bands were not reduced, there would be no room available for the operation of bush fire radio equipment; but in the closest counterpart of this service that I could find in the American table, I find the Americans can operate no fewer than 92,000 transmitters.

This takes me out of the field of amateur frequencies altogether, and it brings up a wider question as to what is happening in frequency allocations in Australia. In times past, I have made the point that we should have a counterpart in Australia of the American Federal Communications Commission. I know that the Postmaster-General has indicated that quite shortly we are to have another committee in Australia to examine the broad question of frequencies. I want to put to the Minister two propositions: One is that we should consider the establishment of an administrative body similar to the American Federal Communications Commission, and towards that end it might not be a bad thing for the Government to invite to Australia one of the American commissioners, and to seek his advice as to how this problem should be tackled.

I put this seriously to the House and the people that, in Australia, one of our most valuable public possessions will be the ownership and availability of channels or communication in a big country; yet what have been given as the reasons for doing the things to which I have referred? We find that we, in Australia, have virtually exhausted the availability of communication channels with something under 50,000 transmitters, yet in a country of the same physical size, and having access to widths of frequencies identical with ours, the American administration is able to operate something like 1,400,000 transmitters. I say again that this is a vital matter, because I am not at all convinced that this question of frequency allocation is being administered in the public interest. When one sees a comparison of that kind—that we can operate only 4,000 transmitters in an area which can accommodate almost 1,500,000 in America—we are seriously invited to consider the efficiency of our handling of this particular problem.

But, Sir, if I may get back to the question of amateur radio, there is no sustainable reason why the amateurs of Australia should suffer further reductions in their wave bands. On the contrary, there is good reason why a

reasonable administration should restore some space that has been withheld or withdrawn without justification. Sir, I should like to have the Postmaster-General devote his attention to this matter and give me some advice as to how far we are committed by the Geneva agreement in its present form, what facilities there are for amendment or change in the conditions involved in it, and also whether the Government will look at this matter again with a view to giving some relief.

Mr. Costa (Banks).—I wish to support the honorable member for Paterson (Mr. Fairhall). I think that the point of view he has put to the House has the support of all honorable members. I support his protests because I believe there should be ample channels available for radio amateurs, to whom we owe quite a lot. They pioneered the radio industry in Australia and they deserve our support. I oppose the restrictions that have been suggested by the Geneva conference.

Mr. Davidson (Dawson; Postmaster-General).—Normally, on Grievance Day, it is not the practice for Ministers to take up any of the time of the debate. Honorable members greet that statement with noisy interjections, but if they will allow me to make a few remarks they will find that I have risen, first because I want to make a few comments in reply to the speech of the honorable member for Paterson (Mr. Fairhall), and secondly, because the honorable member for Macarthur (Mr. Jeff Bate) also asked me to make some comments on that matter and was good enough to offer me his time in this debate so that I might do so. I appreciate that action of the honorable member.

As only a few minutes remain of the time allotted for this debate, I shall not attempt to reply to all the points made by the honorable member for Paterson. He has discussed with me on many occasions the matters he has raised today. Therefore I have an understanding of his point of view, and he understands my attitude. There are some things on which we differ and some on which we agree. I differ with him in respect of the charges he has made of repudiation and bad faith and his criticism of the attitude of departmental officers. Certainly the departmental officers have not agreed with all the proposals which have been put forward by the representatives of the amateur institute, but I think it must be conceded that a good deal of co-operation and consideration has been given by the department in the matters put forward by those representatives in discussions at both Canberra and Melbourne, and also by the appointment on behalf of the institute of an observer to travel with the delegation which went to Geneva. I should also like to point out—and this point has been raised by me before—that prior to the delegation leaving, I submitted a proposal to Cabinet outlining the attitude that would be adopted by the delegation. Therefore, if there is any comment or criticism in that respect it should be directed not at the departmental officers but at myself.

I particularly want to refer, in the next two or three minutes, to the present position and to our future planning. I think that is particularly what the honorable member for Paterson wants me to do. I have just received a summary of the portion of the report of the delegation to the Geneva talks which deals with frequencies allotted to amateur radio operators. It is my intention, very shortly, to submit this report to Cabinet for its consideration, and I can assure the House and the honorable member that any decision taken will be one of policy. I cannot anticipate what that will be. But before anything further is done, I shall recommend that a committee be set up to inquire into the matters referred to by the honorable member for Paterson. I propose proceeding with that on a very wide basis. There need be no fear, first of all, that any action which the amateurs might consider would hurt them will be taken immediately or without further opportunity being given for discussion. Secondly, any committee appointed to inquire into the whole range of frequencies in Australia will have a very wide constitution so that all the interests involved in the operation of frequencies will have an opportunity to present their cases. When I say that I mean, for example, that the amateur institute will have actual representation on the committee and not merely be invited to send an observer.

The honorable member for Paterson has suggested that this investigation should be wider and that we should set out to develop something in Australia of the nature of the Federal Communications Commission which operates in the United States of America. I am not very much attracted to that proposal at present; but it would be quite prepared to have a look at it, and if necessary, discuss it with Cabinet to see whether it thinks that a committee of that nature should be established. For the present, I fancy an ad hoc committee, which would not be appointed as a permanent body, would be the best means to deal with this matter with reasonable celerity.

Mr. Wentworth.—My question to the Postmaster-General relates to the International Telecommunications Conference which was held last December in Geneva. Was any agreement or convention entered into on behalf of Australia, or was anything done which was in any way binding on Australia? If so, will the Minister, before we go into recess, lay on the table of the Library for the information of honorable members a copy of the undertakings which were given?

Mr. Davidson.—Certain determinations were made by delegates to the Geneva conference, and those determinations were noted. But there has been no ratification by this Government of any of the decisions which were arrived at. Yesterday I received a summary of that part of the overall report which deals with amateur radio operators. It is my intention shortly to submit that summary to Cabinet for consideration and determination as to what further action should be taken. When such determination is made it is my intention to make a statement on the matter to the House.

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Designed to read DC, AC, Zero-Centre, RF and HV.
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Type HV-20 High Voltage Probe with built-in multipliers extends DC scale by a factor of 20, giving full scale readings of 0-30, 100, 300, 1,000, 3,000, 10,000 and 30,000. D'Arbel scale is suitable for level observations based on 1mW. into a 690 ohm line as zero db, corresponding to 0.774 volts AC on the 1.5 volt range. An AC volts/db. conversion chart supplied with each instrument as part of instruction booklet.

TECH Model PV-58 V.T.V.M.
£19/10/0 plus 12½% Sales Tax

Accessories:
RF-22 HIGH FREQUENCY PROBE
46/6 plus 12½% Sales Tax
HV-20 HIGH VOLTAGE PROBE
63/- plus 12½% Sales Tax

TEK Model MG-310 MULTITESTER

Sensitivity 20,000 ohm/V. DC
10,000 ohm/V. AC
Ranges:
0-5, 25, 100, 500, 1,000, 5,000 volts AC.
0-5, 25, 100, 500, 1,000, 5,000 volts AC.
DC Current: 0-1 microamp.: 0-5, 50, 500 mA.
Resistance: 0-60K, 600K, 0-5MG, 600K ohms.
Decibels: Minus 20 to plus 16 db, plus 30 db.
£8/5/0 plus 12½% Sales Tax

TECH POCKET VOLT-OHM METER, Model PT-34

Sensitivity 1,000 ohm/V. using
300 microamp. meter.
Ranges:
0-10, 50, 250, 500 and 1,000 volts AC/DC.
0-1 mA., 0-100 mA. and 500 mA.
0-100K and infinity ohms.
44/- plus 12½% Sales Tax

PI-COUPLED FOR HIGHER POWER

Compact, handswitched, high power pi-coupler inductor for co-ax output. Rated for a max. 1,000v. d.c. at 30 m.f. max. High voltage ratings 100 and 200. For max. efficiency the 10-metre coil is made of 1 in. silver-plated strip, 15 and 20-metre coils of 1/8 in. silver-plated wire, and the 40 and 80-metre coils of 12 B. & S. thin-walled copper wire.
Input capacity 250 p.f. max. output capacity 1,500 p.f. max. A single pole five-position switch is provided which can be used for switching in parallel capacities when required.
Recommended input capacitor: Eddystone Type S17. Recommended output capacitor: Standard miniature 3-gang BC condenser which is suitable in this position up to 1 kw.

Price: £4/17/6 nett

"Willis" Med. Power Pi-Coupler,
£3/19/6 inc. Sales Tax.

Geloso Pi-Coupler, 31/6 inc. S. Tax.

"Willis" Heavy Duty Pi-Coupler Choke, 25/- inc. S. Tax.

WILLIAM WILLIS & CO. PTY. LTD.

The House of Quality Products

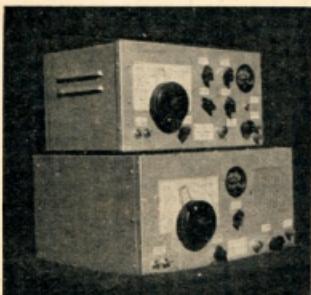
428 BOURKE ST., MELB'NE
Phone: MU 2426

SYNCHRONOUS COMMUNICATION

PART THREE

(iii) PRACTICAL HINTS IN BUILDING A SYNCHRONOUS COMMUNICATION SYSTEM

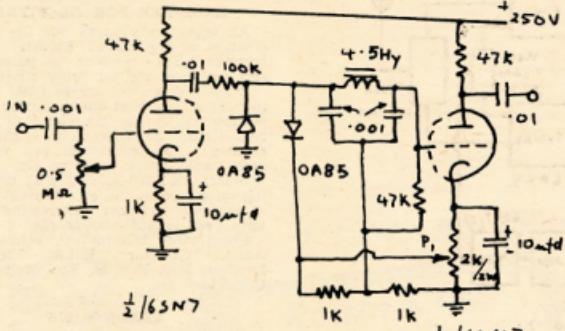
A synchronous communication system was designed and constructed, operating on a frequency of 96 Mc. (see photograph). The receiver was direct conversion and had a pull in range of ± 850 cycles, while it would follow a signal drift of ± 2.1 kc/sec. The receiver would remain locked onto a signal until the noise or interference level had increased to a point where the noise power equalled the power in one sideband of the received signal.



96 Mc. Synchronous Communication System.
Top: D.s.b.s.c. Transmitter.
Bottom: D.s.b.s.c. Receiver.

The following are several suggestions which could be borne in mind by a person constructing a d.s.b.s.c. system.

*3 Te Anau Ave., Prospect, South Aus.



Note:- P_1 sets clipping Level.

Frequency response $200n \rightarrow 2.5$ kc/s.

Fig. 13.

M. R. HASKARD,* VK5ZBH

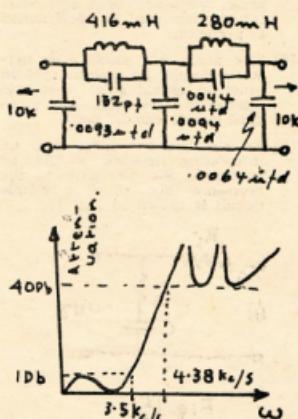
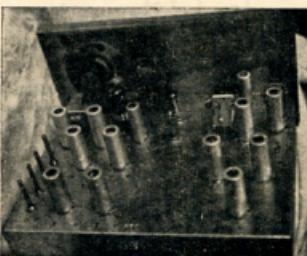


Fig. 14.

a phase modulator) and as such when the receiver is correctly "locked on" there will be zero error in phase (provided the phase is not changing linearly, i.e. no frequency shift).

Special points to note are:

- (1) For low frequencies, the radio frequency 90° phase shift network can be a simple R/C type. For high frequencies, a $\frac{1}{4}$ wavelength of transmission line is suitable.
- (2) The audio amplifier in the I and Q channels should not pass any frequency below about 200 cycles, or heterodyne whistle will be troublesome.
- (3) The low pass filters determine the receiver selectivity curve, and, therefore, special attention should be paid to them. A suitable Chebyshev circuit is shown in Fig. 14.
- (4) A.g.c. should be used on the audio system.



A 96 Mc. D.s.b.s.c. Receiver
(cover removed).

(5) A small 1" oscilloscope is far superior to an S meter. If outputs from the I and Q amplifiers are fed onto the X and Y plates, not only can the signal strengths be determined, but the phase error, frequency drift and other information can be determined at a glance.

(6) The audio 90° phase shift network should be within $\pm 5^\circ$ in order to obtain good noise and interference rejection. Any standard circuit can be used.

(7) To stabilise the servo loop an integrating network should be placed in the d.c. path to the reactance tube. Such a simple circuit is shown in Fig. 15.

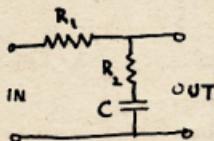
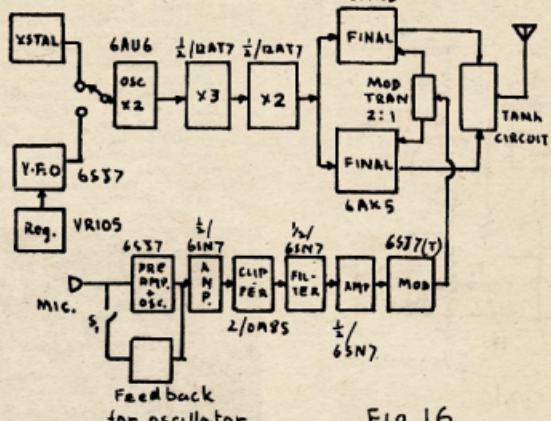


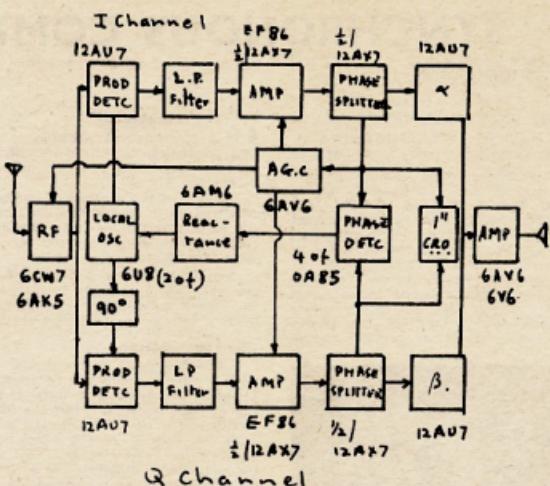
Fig. 15.

Block diagrams of a simple transmitter and receiver are given in Figs. 16 and 17.

Apart from solving the servo loop, a d.s.b.s.c. receiver working on 80 metres is not very difficult to design and construct. I feel that because of the distinct advantages offered by a d.s.b.s.c. system over a present-day a.m. communication system, when building their next transmitter and receiver, Amateurs should give a d.s.b.s.c. system consideration.



Block diagram for the 96 Mc/s Transmitter.



Block diagram for the 96 Mc/s Receiver

Fig. 17.

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ELECTRONIC MAINTENANCE ENGINEER FOR HOSPITAL

An opportunity exists for the above position at the Alfred Hospital (Melbourne). The position is permanent and embraces the following subjects:

DC/AC amplifiers up to 1,000 cycles including band-pass filters; carrier wave equipment; power supplies (all fully regulated); galvanometers (light recording); P.E. cell work; pen writing gear; radio active counters, etc.

Salary: £1,200-£1,600 p.a., depending on qualifications, etc. Normal hours of business and most interesting work with very enthusiastic people.

For further information, contact the Admin. Secretary, W.I.A., Victorian Division, P.O. Box 36, East Melbourne, C.2, Vic.

TRADE NEWS

An Australian subsidiary company, Collins Radio Company (Australia) Pty. Ltd., located at Stanhill, St. Kilda Road, Melbourne, Victoria, will serve Collins customers in the Australian, New Zealand and South East Asia area.

A spare parts service centre and complete test facilities employing factory trained technicians for Collins equipment will be maintained by the new company.

T.V.I. LITERATURE

JOHN ANDERSEN, VK3ZFO

• The following is a bibliography relating to t.v.i./b.c.i. and is published to assist those who require additional information. The Publications Committee requests all Divisions to advise the problems which their Amateurs are facing in dealing with this matter.

PUBLIC RELATIONS AND CAUSES OF T.V.I.

T.v.i. Causes and Cures—Phil Rand. The A.R.R.L. Handbook—Section 23, p. 546, 1959 Ed.

V.h.f. Handbook, Orr and Johnson—pp. 75-89 (includes notes on neutralisation).

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U.h.f. Strip Problems—"QST" Dec. '54.

T.v.i. Causes—"QST" Sept. '52.

V.h.f. Heterodyne T.v.i.—"QST" June '52.

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Home-Built Shielded Link—"QST" Aug. '52.

Stubs for T.v.i. Reduction—"QST" Aug. '52.

Curing T.v.i. with Co-axial Stubs—R.S.G.B. March '58.

Harmonic Reduction With Stubs—"QST" Dec. '48.

More on Signal Shifter T.v.i. Suppression—"QST" March '55.

By-passing for Harmonic Reduction—"QST" April '57.

T.v.i. Tips—"QST" Aug. '49.

LOW PASS FILTERS

Adjusting L.P.F.—"QST" Mar. '55.

Tin-Can Low Pass—"QST" Sept. '54.

Low Pass Filters from Standard Mica Capacitors—"QST" Dec. '52.

Low Cost T.v.i. Filter—"QST" May '50.

Eliminating T.v.i. by Low Pass Filters—"QST" Feb. April '50.

* Secretary, VK3 T.V.I./B.C.I. Committee, 26 Adey Avenue, Kew, Victoria.

Half Wave Filters—"QST" Feb. '50.
High Attenuation Filter—"QST" Jan. '50.
Design of L.P.F.—"QST" Dec. '49, Jan. '50.
Half Wave Filter—"QST" Dec. '49.
High Pass Filters—"QST" Aug. '50, Oct. '50 May '49.

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Simple Experimental Shielding—"QST" Dec. '50.

Filtering and Shielding Tips—"QST" Oct. '53.

Shielding for T.v.i. Reduction—"QST" Oct. '50.

TEST DEVICES

Baking Can Wavemeter—"QST" Feb. '55.

Handy Handfull (G.D.O.)—"QST" Mar. '53.

Increasing Sensitivity of G.D.O. Freq. Measurements—"QST" June '53.

Effective T.v.i. Probe—"QST" May '52.

Phase Angle Data for Transmission Lines—"QST" July '52.

U.h.f. Converter Harmonic Checker—"QST" July '51.

Harmonic Separators—"QST" Dec. '50.

Regenerative Wavemeter—"QST" Nov. '49.

Useful Tool for T.v.i. Reduction—"QST" July '49.

More on T.v.i. Elimination—"QST" Dec. '48.

All Band G.D.O.—R.S.G.B. Nov. '50.

Further Notes on T.v.i.—R.S.G.B. Oct. '50.

Design of Pi Network Tank Circuits—R.S.G.B. April '52.

An Improved Low Pass Filter—R.S.G.B. June '52.

Practical Applications of Pi Networks to T.v.i. Reduction—"QST" Jan. '52.

Sensitivity Harmonic Indicators—R.S.G.B. Feb. '52.

Design of Low Pass Filters for T.v.i. Reduction—R.S.G.B. May '53.

T.V.I./B.C.I. Committees have been formed in all W.I.A. Divisions and any W.I.A. member experiencing t.v.i./b.c.i. is particularly requested to inform his local committee of his problems. The above bibliography has been based upon articles which the Amateur has ready access to, but it is not a complete survey. Your Divisional library may be able to lend you any of the above journals.

*

When purchasing any item advertised in "A.R." please state that you read the advertisement in "A.R."

CHOOSE THE BEST—IT COSTS NO MORE



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SOLDERS**
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BOOK REVIEWS

RADIO AMATEUR'S HANDBOOK

27th Edition, 1960

This year reviewing the annual edition of this publication was a pleasant rainy day occupation for me and overcame my disappointment at the rain ruining a perfectly good painting day.

It is rightly styled the "Standard Manual of Amateur Radio Communication" and over three million copies have been sold.

Its sections on the theory of radio communications have been revised to keep abreast of the state of the art, and material on the construction of equipment includes new designs in all categories. There are transmitters and receivers for every level of cost and constructional ability.

Special methods of Amateur communication, such as sideband and radioteletypes, are treated in sufficient detail so that any student of the art will be able to understand the basic principles. The theory and practice of Amateur mobile radio equipment is thoroughly covered and the use of transistors is included wherever applicable.

The chapter on vacuum-tube characteristics has been brought up to date, providing, as usual, one of the most complete listings of characteristics and base diagrams to be found between the covers of any one book.

I was a little disappointed to note that the only power supplies using silicon or germanium rectifiers were described on pages 494 and 495 where it is suggested that "silicon rectifiers may be used in lieu of the selenium types specified". The other reference is in section 6, pages 201 to 205, "A Compact 650 Watt Amplifier" where germanium rectifiers are used in a dual voltage doubling circuit.

Publisher: American Radio Relay League. Australian price 46/3, postage 3/- . Our copies from McGill's Newsagency, 183 Elizabeth St., and Technical Book & Magazine Co. Pty. Ltd., 255-259 Swanston Street, Melbourne.

"THE TRANSISTOR"

Theory and Applications

This is the latest from the Philips Technical Library. It is well written and describes transistors and transistor circuits in sufficient detail for Amateurs to duplicate the equipment described. Unfortunately it does not include data on Philips' v.h.f. transistor, the OC170.

Our copy from McGill's Authorised Newsagency, 183 Elizabeth St., Melbourne, C.I.

SHORT WAVE RECEIVERS FOR THE BEGINNER

Many years ago when I was in my teens, I used to avidly search any literature which became available to me in search of circuits similar to those described in this publication and I can recommend this booklet to our younger constructors. It also contains information on setting up a receiving station, reporting, etc., and should be invaluable to the s.w.l.

The components used in the receivers are of British origin and identical units or acceptable substitutes should be readily available from your usual supplier.

Our copy from Data Publications Ltd., London, Data Book Series No. 14, Technical book suppliers should be able to supply.



★ The WARBURTON FRANKI Page ★



**HEATHKIT SG-8
R.F. SIGNAL GENERATOR**

Align tuned circuits quickly and easily with this fine kit. Also useful in tracing signals in faulty R.F., I.F. and audio circuits. Designed for general service applications, the SG-8 covers 160 Ke. to 110 Mc. on fundamentals in five bands and from 110 Mc. to 220 Mc. on calibrated harmonics. The entire oscillator circuit is built on a special sub-chassis using prewound and calibrated coils. No further calibration is required, so it is ready to use when construction is completed. R.F. output is either direct or via a variable control, built by both step and continuously variable controls. May be modulated internally at 400 C.P.S. or externally at other frequencies. Complete with output cable and instructions.

BUILD YOUR OWN TEST EQUIPMENT WITH **HEATHKITS** AND CUT COSTS IN HALF



**HEATHKIT TS-4A
T.V. ALIGNMENT
GENERATOR**

Provides the essential facilities required for alignment of F.M., monochrome T.V. or color T.V. sets. The all-electronic sweep circuit employs a controllable inductor, which varies frequency by magnetic means. Not only is this device trouble-free and consistent in performance, it also requires very little power to provide wide range sweeps with excellent linearity. The sweep circuit operates on fundamentals covering the range of 3.6 Mc. to 220 Mc. in four bands. Features built-in 5.5 Mc. Crystal and Variable Marker Oscillators.

HEATHKIT O-12 5-inch OSCILLOSCOPE

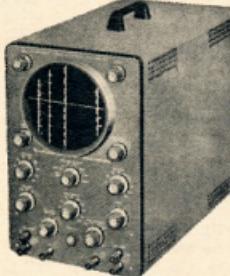
VERTICAL CHANNEL

Sensitivity: 0.025 volts (R.M.S.) per inch at 1 Kc.
Frequency Response: Flat within plus or minus 1 db. from 1 c.p.s. to 2.5 Mc.
Bandwidth: 1.5 to minus 1.5 db. at 3 c.p.s. to 5 Mc. Response at 3.58 Mc. minus 2.2 db. (All response measurements referred to 1 Kc.)
Rise Time: 0.08 microseconds or less.
Overshoot: 10% or less.

HORIZONTAL CHANNEL

Sensitivity: 0.3 volt (R.M.S.) per inch at 1 Kc.
Frequency Response: Flat within plus or minus 1 db. 1 c.p.s. to 200 Kc. Flat within plus or minus 3 db. 1 c.p.s. to 400 Kc.
Attenuator: Low impedance type in cathode follower output.
Input Characteristics: Selector switch permits choice of external input through panel terminal, line-frequency sweep of variable phase or internal sweep from sweep generator.

Horizontal Positioning: D.C. type; permits wide range of positioning to examine any part of trace even with full horizontal gain.



HEATHKIT V-7A

World's Largest Selling V.T.V.M. KIT

Specifications: D.C. Volts: 7 ranges 0-1.5 to 0-1,500. Input Resistance: 11 megohms. Sensitivity: 7,333,333 ohms per volt on 1.5v. range. Accuracy plus or minus 3% full scale.

A.C. Volts: 7 R.M.S. ranges 0-1.5 to 0-1,500. Frequency response (5v. range): Plus or minus 1 db., 42 c.p.s. to 7.2 Mc. Accuracy plus or minus 5% full scale. Seven peak-to-peak ranges 0-4 to 0-4,000.

Resistance: Seven ranges measures 0.1 ohms to 1,000 megohms with internal battery.

Size: 7 1/2 x 4-11/16 x 4 1/4 inches.



HEATHKIT CC-1 CATHODE RAY TUBE CHECKER



Ideal for Servicemen, this handy instrument can be carried on service calls to demonstrate the quality of a customer's picture tube right in his own home. Checks all electromagnetic deflection-type tubes using the duo-dec 12-pin base. No worry about the type of focusing, electron gun or screen. Test for shorts, leakage and emission capabilities. A separate test is provided for beam current. Test picture right in receiver or carton. No ion tap required. Special provision is made for the actual observation of the gun aperture on the face of the C.R.T. The CC-1 is A.C. power transformer operated and supplies all operating voltages to the cathode ray tube. Designed to last a lifetime—no tubes to burn out or to replace. Permanent test cable with C.R.T. socket and anode connector included. Quality indications are read on a large 4 1/2 inch 3-color meter scale; shorts on a neon leakage indicator. Housed in an attractive luggage-type portable cabinet with removable cover.



WARBURTON FRANKI

VIC.: 359 LONSDALE ST., MELB., 67-8351 • N.S.W.: 307 KENT ST., SYDNEY BX 1111
QLD.: 233 ELIZABETH ST., BRISBANE, 31-2081

Remembrance Day Contest, 1960

A HANDSOME perpetual trophy is awarded annually for competition between States, inscribed with the names of those who made the supreme sacrifice, and so perpetuating their memory throughout Amateur Radio in Australia.

The name of the winning Division each year is also inscribed on the trophy. In addition, the winning Division will receive a suitably inscribed framed photograph of the trophy.

Objects

Amateurs in each Call Area (this includes those in Australian Mandated Territories and Australian Antarctica) will endeavour to contact Amateurs in all other Call Areas (VK1 and VK2 are considered to be one Call Area).

Date of Contest

13th and 14th August, 1960.

Duration

From 1800 hours E.A.S.T., 13th August, 1960, to 1759 hours E.A.S.T. on 14th August, 1960. A period of 15 minutes silence will be observed by all stations on the 13th August immediately prior to the start of the Contest when an appropriate broadcast will be made from VK3WIA and relayed by the Divisional Stations.

RULES

1. There shall be four sections to the Contest:

- (a) Transmitting Phone.
- (b) Transmitting C.W.
- (c) Transmitting Open.
- (d) Receiving Open.

2. All Australian Amateurs may enter the Contest whether their stations are fixed, portable or mobile, but only members of the W.I.A. are eligible for the Awards. Portable/mobile operation is defined as transmitting and/or receiving equipment which is not connected to any private or public power mains or plant.

3. All Amateur frequency bands may be used, but no cross-band operation is permitted.

4. Amateurs may operate on both phone and c.w. during the Contest (e.g. phone to phone, c.w. to c.w., or phone to c.w. and vice versa), but may submit an entry for only one of the above sections listed in Rule 1.

An Open log will be one in which points are claimed for both phone and c.w. transmissions.

A contestant transmitting on phone but receiving on c.w. must enter for the phone section (and vice versa). Refer to Rule 11 concerning entry in logs.

EXAMPLE OF TRANSMITTING LOG

Date/ Time E.A.S.T.	Band	Emis- sion	Call Sign	RST/NR Sent	RST/NR Rev'd.	V.h.f. Bonus	Points Claim.	Blank

Note.—Standard W.I.A. Log Sheets can be used to follow the above form.

- The Federal Contest Committee of the Wireless Institute of Australia wishes all Australian Amateurs and Short Wave Listeners to participate in the Annual Contest which is held to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to 15th August, the date on which hostilities ceased in the S.W.P.A.

5. Only one contact per station per band is allowed and arranging schedules for contacts on other bands is not permitted.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

Contestants operating stations other than their own shall be referred to, for the purpose of these rules, as "substitute operators". Their operating procedure will be as follows:

Phone contacts: Substitute operators will call "CQ Remembrance Day" followed by the call sign of the station they are operating and the word "log" followed by their own call sign.

C.W. contacts: Substitute operators will call "CQ RD de" followed by the group call sign comprising the call sign of the station they are operating, an oblique stroke, and their own call sign.

Contestants receiving signals from a substitute operator will qualify for points by recording the call sign of the substitute operator only.

7. Entrants must operate within the terms of their licences.

8. **Ciphers:** Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephone) or RST (c.w.) reports plus three figures which may begin with any number between, or including, 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 053, then for the second contact the number must be 054, for the third 055 and so on. If any contestant reaches 999, he will start again with 001.

9. Entries must be set out as shown in the example, using only one side of the paper. Entries must be postmarked

not later than 4th September, 1960, and addressed to the **Federal Contest Committee, W.I.A., Box 851J, G.P.O., Hobart, Tasmania.**

10. Scoring will be based on the table shown:

SCORING TABLE

From	To								
	VK0	VK1-2	VK3	VK4	VK5	VK6	VK7	VK8	VK9
VK0	-	6	6	6	6	6	6	6	6
VK1-2	6	-	1	2	3	5	4	6	6
VK3	6	1	-	3	2	5	4	6	6
VK4	6	1	2	-	3	6	5	4	6
VK5	6	2	1	3	-	5	4	6	6
VK6	6	1	2	4	3	-	5	6	6
VK7	6	2	1	4	3	5	-	6	6
VK8	6	1	2	3	4	5	6	-	6
VK9	6	1	2	3	4	5	6	6	-

Note.—Read table from left to right for points for the various call areas.

In addition a bonus of 25 points may be claimed for the first contact in each Call Area on 50 Mc. or above.

11. **Logs:** All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

Name..... Section.....

Address..... Call Sign.....

Claimed Score.....

Declaration: I hereby certify that I have operated in accordance with the rules and spirit of the Contest.

Signed.....

Date.....

All contacts made during the Contest must be shown in the log submitted (see Rule 4).

Entrants in the open section must show phone and c.w. contacts in one numerical sequence.

12. The right is reserved to disqualify any entrant who, during the Contest, has not observed the regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards:** Certificates will be awarded to the winners of the phone, c.w., open and receiving sections in each area (Northern Territory will count as a separate Call Area). There will be no outright winner for Australia. Further Certificates may be awarded at the discretion of the Contest Committee.

The State to which the Perpetual Trophy will be awarded shall be determined in the following way:

(Continued on Page 15)

EXAMPLE OF RECEIVING LOG—VICTORIAN S.W.L.

Date/ Time E.A.S.T.	Band	Call Sign Heard	RST/NR Sent	Station Called	V.h.f. Bonus	Points Claim.	Blank
Aug. '60							
13 1802	7 Mc.	VK3XU	59001	VK3XU	—	2	
13 1805	"	VKGRLU	56004	VK9DB	—	5	
14 1115	50 ..	VK4RZ	47135	VKSQR	25	3	

Note.—Standard W.I.A. Log Sheets can be used to follow the above form.

AMATEUR CALL SIGNS

FOR MONTH OF FEBRUARY, 1960

NEW CALL SIGNS

VK— New South Wales
 2CK—G. A. Warner, O.T.C., Bringelly.
 2CO—H. Orr, 24 Noble St., Hurstville.
 2CR—D. F. Lloyd, O.T.C., Bringelly.
 2CY—B. Chorley, 136 Atchinson St., Crows Nest.
 2HR—M. Beck, O.T.C., Bringelly.
 2PK—H. T. J. Stone, O.T.C., Bringelly.
 2DS—E. Handcock, 16 Tedman Pde., Sillivanna.
 2ZPC—P. J. Carter, 12 Watts St., Ryde.

Victoria

3EI—D. F. Reid, 335 O'Hear Rd., Pascoe Vale.
 3LL—K. V. L. Hepburn, 601 Nepean Highway, East Brighton.

3AMH—W. E. Sadler, Station: Walker St., Ballarat; Postal: 208 Eyre St., Ballarat.

3ARZ—W. E. Roper, Lot 59 Orchard St., Mt. Waverley.

3AZR—R. N. Magg, C/o Radio Australia, Sheeperton.

3ZCA—G. A. Abbey, 207 South Rd., Brighton.

3ZCQ—P. L. Thatcher, "No-Ray-Al," 55 Sandell's Road, Tecoma.

3ZIR—I. A. Bourke, 2 Crowther Place, Brighton.

3ZJH—D. W. Dorsey, Cottage No. 6, Radio Australia, Sheeperton.

3ZJJ—D. C. Smith, 12 Inkerman St., Maidstone.

Queensland

4ZDM—D. W. McGrath, Station: 26 Latchford St., Pimlico, Townsville; Postal: C/o. P.O. Box 205, Townsville.

South Australia

5TA—G. Cole, 8 Farrell St., Glenelg.

5ZAY—G. P. Yelland, 19 Lynington St., Tusmore.

5ZDK—R. R. Lamacraft, 38 Avenue Rd., Highgate.

5ZFK—I. A. Foale, Hillside Rd., Springfield.

Western Australia

6AO—A. R. Jarman, Forrest, W.A.

6GJ—J. R. Wood, 1031 Wellington St., Perth.

6MW—M. T. Webster, 139 Wellington St., Mosman Park.

6TC—C. T. Power, Lot 42, George Rd., Geraldton.

6ZCH—P. J. McMullen, Albany Highway, Mad-dington.

6ZRJ—R. H. Waldon, 11 Mayne St., Invermay, Launceston.

Territories

9HC—H. Colister, Cable Station, Cocos Isld.

CHANGES OF ADDRESS

VK— New South Wales

3YJ—C. W. Johnson, 30 Hicks St., Merewether.

2AAU—K. P. A. Persson, 96a Station St., Armidale.

2ABM—H. G. Morgan, 93 Northcote Rd., Banks-town.

2AEP—A. G. Oswald, 39 Allawah Ave., Cars Park.

2AEV—A. G. McMurray, 241 North Rocks Rd., North Rocks.

2APD—D. J. Fisher, Kapoor Ave., Dapto.

2AGF—E. A. Parker, 79 Perouse Rd., Randwick.

2ALC—C. Allen, Eastern Command Signals, Goulburn St., Lidcombe.

2ALP—T. Franklin, 11 Fitzroy St., Unima.

2ALW—H. J. Weatherley, Lot 4, Villiers Rd., Paddington Heights.

2AVJ/T—W. B. Jones, 231 Albany St., Gosford.

2AVK—S. F. G. Williams, 147 Katoomba St., Katoomba.

2AWW—G. D. Wheaton, 35 Sixth Ave., Con-dell Park.

2ZGR—G. Ronayne, 117 Ryde Rd., Hunters Hill.

2ZJN—R. J. Neurath, 51 Doyle St., Revesby.

Victoria

3JT—L. G. Symons, 60 Maple St., Mt. Waverley.

3OK—J. Craddy, 22 Lyell St., South Melbourne.

3PV—D. B. Shaw, Station: 10 Nairne Rd., Caulfield North; Postal: C/o. O.T.C. Receiving Station, Rockbank.

3QG—C. K. Blake, 39 Urquhart St., Horsham.

3VS—I. L. Griffin, 27 Auburn Rd., Auburn.

3AER—Parker, 30 Gillies St., Fairfield.

3AKA—K. H. Hughes, Sunhill Rd., Mt. Waver-ley.

3APW—D. B. Shaw, C/o. O.T.C. Receiving Station, Rockbank.

3ZJE—J. R. Edwards, 52 Orrong Rd., Elstern-wick.

Queensland

4CI—C. E. Cogrell, 38 Bernhard St., Padding-ton, Brisbane.
 4JA—J. T. Marston, 187 Aberdeen Pde., Boon-dall.
 4XS—L. J. Salter, 66 Haly St., Kingaroy.

South Australia

3DJ—J. F. Drew, Kingston, S.E.
 3FE—F. Ward, P.M.G. S.Techs. Res., Marree.
 3IA—A. R. Allwright, 2 Shaxton St., Salisbury North.

3IW—B. Wall, 8 Dutton St., Glen Osmond.
 3PK—P. T. Hainsworth, Manunda Ave., Wind-sor Gardens.

3RZ—O. L. Nestrom, 7 Daphne St., Kurralka Park.

Western Australia

6ZCE—K. J. Kosina, 4 Walker St., Wembley.

Tasmania

7JO—J. G. Oliver, 83 Montage St., Newtown.

CANCELLED CALL SIGNS

VK— New South Wales

2DS—A. D. Freeman.
 2EM—A. F. Sutton.
 2AAZ—18th A.A. Regt. Radio Club.
 2ACO—C. H. Orr (now VK2CO).
 2AHL—W. A. Lewis.
 2AHW—H. T. J. Stone (now VK2PK).
 2ANY—M. W. Beck (now VK2HR).

Victoria

3WT—W. G. Barratt.
 3AJX—R. J. Jarman (now VK6AO).
 3AYO—M. T. Webster (now VK6MW).

Queensland

4DS—D. R. Sneddon, Willis Island.

South Australia

5CR—W. P. Couper.

5DG—D. P. Gyles.

5LW—R. D. Kelly.

5ZEF—I. B. Fraser.

Western Australia

6DL—D. Laws.

Tasmania

7PD—P. E. L. Dunne.

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 2ZEP—T—R. J. Flegg, Experiment Farm, Yanco.
 4VB—T—F. J. Wood, 175 Ferguson Rd., Seven Hills.
 6ZBK/T—L. G. Rock, 36 Essex St., Wembley.

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VK5DF AT FAIR

Amateur Radio Station VK5DF was set up at the Port Lincoln Trades and Industries Fair, held on 25th and 26th March, 1960.

John VK5JM and Wally VK5DF were the operators on the 7 and 14 Mc. bands. The photograph shows Wally VK5DF at the controls.

Radio conditions were not the best during the hours of operating, but 30 most interesting contacts were made and greatly appreciated by the patrons to the Fair. Quite a few took the opportunity of having a few words to say to fellow Amateurs, both near and distant. The best DX was to ZL land.

The transmitter was a Geloso v.f.o. into a single 807 at 50 watts plate and screen modulated. The receiver was home built, 10 tubes, one r.f. stage, three i.f. stages at 455 Kc., and plug-in coils for the various bands.

The complete rig was set up in a home-built walnut veneer cabinet and has the permission of 3DF's XYL to allow it set up in the front room of the house.



The antenna used at the Fair was 68 feet long, 25 feet high, and end fed with 300 ohm ribbon 45 feet long.

The DX cards pinned around the world map were loaned by Tubby VK5NO, and came from 70 different countries. John VK5JM loaned a spare receiver and the globe of the world.

The Port Lincoln Junior Chamber of Commerce is grateful to the P.M.G. Radio Branch for the special permission to operate the station at the Trades and Industries Fair as a working station, and sincere thanks to the Amateurs who made contact. By the time that this is read it is hoped that the special QSL cards printed for the occasion will have been posted out to all those stations that made contacts.

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ROSS HULL MEMORIAL V.H.F. CONTEST 1959-60 RESULTS

TROPHY WINNER

D. R. Horgan, VK4ZAX, was the trophy winner and highest scorer with 1,885 points.

AWARD WINNERS

Phone:

VK2ABR	A. W. Rushby	707
VK3ZFM	R. A. H. Blake	628
VK4ZAX	D. R. Horgan	1885
VK5ZGA	G. A. Gormly	1052
VK6WG	W. W. Green	505
VK7ZAI	D. A. H. Thorne	307
JA1BWD	Takashi Miyazaki	474
JA2ZL	Yasusi Yamada	142
JA3ASP	Shuichi Matsumoto	101
JA8CC	Ken-ichi Kitajima	227

Open:

VK2WH	W. H. R. Stitt	951
VK4PU	J. D. Purdon	691
VK6BE	J. R. Elms	804
VK7LZ	C. P. Wright	764
VK9XK	S. R. Coleston	593
ZL2DS	K. R. Kirkaldie	205

Receiving:

D. King (VK4)	1672
K. A. Wehr (VK5)	1204
J. M. Hilliard (VK3)	481
Jasutugu Miura (JA)	415

INDIVIDUAL SCORES

Phone:

VK2ABR	707	VK5ZDR	654
VK2HE	650	VK5ZBL	653
VK3RX	553	VK6WG	505
VK2ZER	542	VK6ZBP	490
VK2ZCF	341	VK6ZBZ	446
VK2ZDM	237	VK6FM	293
VK2ZAD	125	VK6ZCD	267
VK3ZFM	628	VK7ZAI	307
VK3ZCG	574	VK7ZAO	198
VK3ZCZ	441	VK7ZAC	136
VK3ZFO	294	VK7ZAA	76
VK3ZGP	252	VK7ZAK	47
VK3ZAT	240	JA1BWD	474
VK3ZBR	142	JA1CYC	396
VK3QV	100	JA1AUD	329
VK3ZCO	84	JA1CYZ	266
VK4ZAX	1885	JA1BIR	211
VK4NG	1011	JA1BYM	163
VK4ZBE	889	JA1CWP	139
VK4ZBI	506	JA1CBZ	95
VK4RW	302	JA2ZL	142
VK5ZGA	1052	JA3ASP	101
VK5ZBZ	802	JA8CC	227
VK5KK	772		

VK5ZBH sent in a check log.

Open:

Participants as shown in Open Awards.

Receiving:

Participants as shown in Receiving Awards plus C. H. Thorpe (VK4) 422 points.

★

AUSTRALIAN AMATEUR CALL BOOK

The 1960-61 Edition will be issued during June-July and orders will be accepted in advance. Check your Call Sign listing and advise the Publications Committee of any correction required. Use the tear-sheet at the back of the Call Book.

FEEDBACK

The extraordinary meeting of Federal Council concluded at 6.30 p.m. on 16th April, 1960, having spent all day discussing the implication of I.T.U. with reference to VK Amateurs. The results of this meeting will have a far reaching effect, and only history will prove if the correct approach was adopted.

Like yourself, I had little knowledge of how Federal Council and Federal Executive functioned, but having spent the day at this meeting, have now gained some impressions which may interest you.

Federal Council is no social gathering, neither is it a group of yes men. Each Councillor had his say and forthrightly put forward the views of his Division. If these views were not adopted it only indicated that the majority of Councillors did not concur.

This meeting, specially called to discuss frequency allocations, did just that. They fully discussed every Amateur Band and you may be assured that your favourite band was the subject of as much debate as any other band. No bias was shown and the Councillors proved that they did have your interests in mind.

You may not have yet heard that Federal Council agreed to Federal Executive taking the strongest possible action to retain the maximum Amateur frequency allocation. Many other details were agreed upon, and you should be fully informed. If you do not know the full details, ask questions of your Federal Councillor, Division, or on the W.I.A. call-back.

Radio Amateurs are indeed fortunate that they have access to a rapid communication medium—Amateur Radio. Let us use this to the fullest extent so that every Australian Amateur is aware of the outcome of the Extraordinary Federal Council Meeting.

Rumour has no part in our activities, particularly as the true facts are so readily available. Therefore base your comments upon official facts and ignore grapevine reports.

Back your Division, which has agreed to a standard Australian Amateur policy regarding retention of our Amateur bands. Act as a united W.I.A. to retain frequency allocations, because as an individual you will only help to weaken Federal policy.

Every Australian Amateur is to receive a copy of the full I.T.U. report regarding frequency allocations. This will be the same report as that tabled at the Federal meeting, so you, too, will then possess all the relevant facts. *

Heard an interesting character calling CQ ninety-three times without giving his call sign. Bet he complained that no one ever answers him. What's the matter OM? Even pirates give call signs. *

That character must read this column. He now hetrodneys VK3WI.

Read that Mt. Bunninyong may be used for erection of t.v. towers. My, that will ruin the DX won't it.

73,
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Secondary 2: 4.5 to 6 volts at 0.3 amp. for
pilot lamp. For use with 5R4GY rectifier.
choke input filter.

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Secondary: 500, 500, 425 volts per side of
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Filaments: 2 x 6.3v. (3a.), 2 x 2.3v. (3a.),
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Secondary: 2.5v. c.t. 10a. for 2 x 866/A fil.
Max.: D.C. wkg. 3,000 watts.

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HINTS AND KINKS

PANEL BUSHING FROM POTENTIOMETERS

Don't discard those old burned-out potentiometers. Throw away the carbon element and case but save the shaft and threaded bushing. It can be used as panel feedthrough bushing for 4 inch shafts.

—Ira L. Simpson, W3LKS, "QST," Dec. '59.

MODULATION PERCENTAGE INDICATORS

The circuit of a modulation indicator that I use with my 813 rig is shown in Fig. 3. It indicates by the use of neon lamps when the modulation exceeds 89 and 100 per cent, and is superior to a meter indicator since the flashing lamps can be seen at a glance without looking directly at the indicator. The audio gain controls on the speech amplifier-modulator are set so that the 89 per cent. indicator flashes only occasionally. The indicators are NE51 neon lamps.

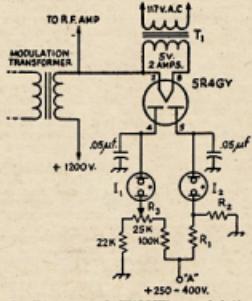


Fig. 3.—Diagram of W11OW's modulation indicator. Transformer T1 should have high-voltage insulation.

Variable resistor R3 is adjusted, with the r.f. amplifier plate voltage turned off, until indicator I1 ignites from the voltage source at "A". In actual on-the-air use, the r.f. amplifier plate voltage will swing to zero on negative peaks during 100 per cent. modulation and the lamp will ignite. Indicator I2 is biased to about 200 volts by choice of the proper values for the voltage divider R1-R2. I used two 47,000 ohm 2 watt resistors with 400 volts at point "A". The ignition voltage for the NE51 is around 65 volts. When the r.f. amplifier voltage is less than 135 volts (200 - 65) the indicator will ignite. The formula for calculating per cent. modulations is

$$\% \text{ mod.} = \frac{E_s - (E_b - E_1)}{E_s} \times 100$$

where Es is the r.f. amplifier d.c. plate voltage, Eb is the neon lamp bias voltage and E1 is the neon lamp ignition voltage. Substitution in the formula for indicator I2 in Fig. 3:

$$1200 - (200 - 65) \times 100 = 89\%.$$

The 5R4GY rectifier can be used in circuits where the plate voltage does not exceed about 1400 volts d.c. For higher voltages a 2X2A can be substituted (along with a suitable filament transformer).

—Charles R. Greene, W11OW, "QST," Oct. '59.

The modulation-monitor circuit shown in Fig. 4 does away with the necessity for using a separate filament transformer or a filament winding with high voltage insulation, and can be used at Class C plate voltage levels as high as 10,000 volts d.c.

The monitor uses a diode designed for television receiver power supplies, and will work with any a.m. transmitter in which the Class C plate current is 125 mA. or more. The diode direct-emitting filament nominally requires 200 mA. at 1.25 volts, but the tube is connected as shown, the power dissipated is only about 1/4 watt. Therefore, heat generation is not a problem and the tube may be mounted in any convenient spot.

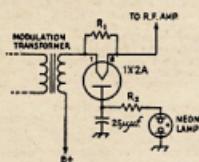


Fig. 4.—Diagram of W2GOO's modulation indicator which obtains filament power from the r.f. amplifier plate supply.

Resistor R1 should be included in the circuit if the d.c. plate current of the r.f. amplifier exceeds 250 mA. The resistor's value may be calculated by using Ohm's law. Substitute 1.25 volts for E, and the excess current over 200 mA. for I in the formula.

Resistor R2 is a current limiting resistor which protects the rectifier. Its value depends on the type of rectifier and neon bulb used, but something around 100,000 ohms should be about right.

More than one rectifier may be used by connecting the filaments in series. Again, if the Class C plate current exceeds 200 mA. connect resistors in parallel with each filament.

—E. A. Anthony, W2GOO, "QST," Oct. '59.

BACK-LASH IN H.R.O. TUNING CONDENSERS

If the dial on your H.R.O. does not return to the same setting each time it is moved then the solution is as follows: Carefully unscrew the nut at one end of the tuning condenser, then slowly tighten the inner screw. Repeat this process at the other end of the condenser, then tighten both holding nuts. This will remove all back-lash in the dial.

May "A.R." correspondence reveals a lot regarding our "doctors", but was disappointed not to read the following story. When a prominent actress fainted, the stage manager appealed for a doctor, regrettably the physician was last in a long line of D.Sc., D.D., D.Lit. Suppose this led to a bust up.

★

On the air checks prove that double sideband with injected carrier is still the most popular mode of transmission.

A WORD TO THE WISE

Throughout Australia all electricity authorities have adopted the standard colour code of green for the earth, with red and black for the active and neutral respectively in all leads to a.c. mains equipment.

Overseas manufacturers do not use this colour code; in their system red is earth.

Before connecting any imported equipment to the a.c. mains, check with an ohmmeter to establish which lead is earth and wire the apparatus accordingly to the mains plug. Do not take for granted the fact that the equipment is correctly (i.e. safely) wired. Check before using.

In addition it is always a safe precaution to check any three-pin power point. Some States do not require the earth lead to be connected to every three-pin socket in a domestic installation. So though your apparatus may be properly connected to the three-pin plug, your power point may not be properly earthed.

Check your installation to ensure all equipment is correctly connected and adequately earthed.

DEATH IS PERMANENT!!

ALL ASIAN DX CONTEST

The Japan Amateur Radio League is conducting the All Asian DX Contest for 30 hours from 1000 GMT 27th August to 1600 GMT 29th August. The purpose of the Contest is "to promote the radio activities of amateurs in Asia through more closely related communications between the Radio Amateurs and those of other continents". The rules are:

1. Stations participating should call CQ AA. 2. All bands 3.5 Mc. to 28 Mc. inclusive may be utilized.

3. The Contest is for c.w. only and cross-band operation is not permitted.

4. The serial number exchanged will be the RST report plus the age of the operator; YL operators are permitted to use two zeros in lieu of giving their age.

5. Each station will score one point and the multiplier is the number of Asian countries worked on each band.

6. Awards of certificates will be made to each country. (a) For single band entry to highest scoring station on each band. (b) For multi-band entry, the three highest scoring stations.

In addition a special cup donated by the Minister of Postal Services will be awarded to the highest scoring single operator on multi-band in each continent. Logs must be submitted by the 30th September, 1959, and should be sent direct to J.A.R.L. P.O. Box 377, Tokyo Central, Japan, and should be endorsed Attention Contest Committee. The usual certificate should be completed at the end of the log.

Further details may be obtained from the W.I.A. Federal QSL Bureau.

Building a modulator? Suggest that if you require a driver transformer for a 6N7, then you contact A. & R. Electronic Equipment Co. Pty. Ltd. who have just released their Type IT630. Having spent a long time searching the "recognised" trade houses I assure you they are not easy to locate.

★

Want to work an AC5? It is difficult as there is one licensed station in that territory. The same applies to CR10, CS3, KG6, KP6, PX, TA, VP8, VQ8, VR1, XV, YL, ZD3, ZD8, 4V8, and 8J. Think of the dog pile when these stations call CQ.

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

JOHN MOYLE MEMORIAL STATION

Editor "A.R." Dear Sir.

Suggestions have been requested for the form which a memorial should take to perpetuate the memory and work of the late John Moyle.

Able panegyrics have made it possible for many of us who did not know him personally to learn of his tenacity of purpose in working to improve the standard and status of Amateur Radio. His efforts on behalf of the Wireless Institute of Australia are known to all members and it appears to be generally agreed that W.I.A. should claim the privilege of sponsoring a memorial.

When the final form is decided, it should preserve the dignity of the man remembered and to achieve this, it is considered all contests should be avoided.

To endow a scholarship in radio engineering would be a great and lasting tribute if it could be financed, but the best memorial to John would be to perpetuate something which he created and through which he was known to Amateurs all over the world.

It would be a nice gesture to approach Mr. Douglas, VK3ON, and his wife of the W.I.A. for their permission to control and operate VK3JU as the "John Moyle Memorial Station".

The New South Wales Division is admirably situated to install and operate such a station.

What better way to perpetuate the memory of a great Amateure?

—George Bills-Thompson, VK3AHN.

THE AMATEUR'S STRUGGLE

Editor "A.R." Dear Sir.

Recent statements in Parliament, touching on the Amateur's struggle to defend his right to use the existing bands, must cause all Amateurs to do some deep thinking on this urgent matter.

When Mr. Daly, M.H.R. (16/2/60), in the House, challenged the P.M.G. (Mr. Davidson) to give a satisfactory answer to these questions, "Who were the delegates to the (Geneva) Conference? What instructions were given to them? Did they act contrary to those instructions? . . ." the statement made by Mr. Davidson was not answer at all! He obviously intends to hide the glaring and disturbing fact that in spite of widespread support of Allan Fairhall's statements in the House in May last year (now Member of the House supported cuts in the bands yet our delegates voted to cut the Conference and almost certainly will be recommended in the forthcoming Report to the House).

To quote Mr. Bryant (Wills) (Hansard, page 216), "This Government's indirect direction of P.M.G. to act on behalf of the Nation has got to cease".

Yet as Mr. Bryant must know, this has been evident for a long time now. Parliament is a farce so long as it continues.

It is not enough in my opinion that the Federation should alone advocate the slogan "Use the bands or lose them". We can and must bring political pressure to bear individually and as an organisation.

If we once assume that the Amateur represents a cross-section of the people, then we must by virtue of that assume that just like the average citizen he has much of his leisure time over the last 10 years or more, through the agency of inflation, and the high cost of living and the necessity to work overtime, etc. In other words he is fighting on at least two fronts—against great odds—to keep his family fed and still retain some leisure time for his hobby.

What one could suggest is a campaign to induce each Amateur to spend a small part of his leisure time to write to his local Member and the local paper, supporting Allan Fairhall's 5/3/60 report in the "House of Commons Herald" to set up a separate body to allocate the bands, apart from other government departments who use radio bands, on similar lines to the F.C.C. in the U.S.A.

This could be an excellent beginning.

—V. H. Richardson, VK3XQ.

CUTS IN AMATEUR BANDS

Editor "A.R." Dear Sir.

No doubt when this letter appears the members will have read in your magazine the recent speech in the Federal Parliament of Senator Morrison, Messrs. Fairhall, Wheeler, Turner and Dean referring to prospective cuts in Amateur bands.

Mr. Fairhall has outlined the matter perfectly. The idea that such an important matter should not be brought before our elected representatives is quite wrong. The right to bring grievances before his Member of Parliament is the right of every citizen.

As mentioned in the Editorial column in "QST" for March, it appears from the proceedings at Geneva that in certain countries, Amateurs had been neglecting their homework. The moral of this is clear. From that time forward, in order to do our homework we have to have good publicity and public relations. Let us constantly keep in touch through the daily press and our local Members. We tend to forget that a Commonwealth Department is the servant of Parliament and Parliament is elected by us, the citizens.

—R. L. Douglas, VK3ON,
M. R. Collett, VK3RU,
R. Brock, VK2AI.

PINK PAGES

Editor "A.R." Dear Sir.

It is always regrettable when the correspondence columns of a specialist journal are used to expound views on matters in no way connected with its specialty.

In particular, I refer to the querulous letter from Mr. J. G. Reed, VK2ZR, thereafter referred to as Reed in deference to his objection to the more courteous forms of address, and to all titles, etc.) in which he uses his pink pages suggestion as a vehicle for a mixture of contempt and boorishness.

Let us examine his presumptions and suggestions.

Of what value would a list of names and hobbies be? Let us also include such things as religious denomination, club membership, name of radio equipment, etc. These are more important than particular hobbies. First names, only assume real value when several contacts have established a bond between operators. The traditional "Old Man" is far more suited to chance contacts than the rigmarole. "The name here is Cecil—or Cedric—or Joe".

Does the Amateur need to hunt for kindred spirits among the pink pages before he answers a call, or worse still, before he contacts another Amateur a second time? How many of the "old time" Amateurs, as Reed calls them, actually look a person up in the Call Book during contact?

Then again, what constitutes an active Amateur—one who commences every contact with "The rig here is . . ." If to an active experimenter a hand set a drone—required to baffle clichés with the mental constipation and verbal diarrhoea group, I shall be content to remain a drone.

The Amateur licence permits us to carry out scientific and associate experiments—not social experiments!

Whilst not all medical practitioners may be regarded as God's gift to mankind, it would be as disconcerting to deny them the use of the title Doctor, as it would be to deny Reed the right to call himself a peddler, if proposed, for one is no more regular than the other.

In contrast, however, the title "The Reverend" is indeed regular when applied to "Clerks in Holy Orders" and as such is used in all official documents. To describe this title as a sanctimonious tag is surely in keeping with the spirit of precocious latitudinarianism of the book under arm episode. Fortunately, most school "professors" don't carry their pretiosity into adulthood.

Such a slight on the eleven clergy listed in the Call Book calls for an immediate apology which I and others hope to see in the next issue of "Amateur Radio".

—George Cameron—VK5EC.

Editor "A.R." Dear Sir.

An excellent suggestion by "Professor" Joe Reed to list the activities of Amateurs in a pink page.

This would assist in opening up new avenues of conversation during the QSO—with apologies to those technical experts who would have us limit remarks to the subject of radio.

Joe's remarks did not call for the tirade of abuse from members of the medical profession and its supporters.

Like the "Professor," I fail to see what useful purpose is served by the inclusion of a prefix to denote the calling or profession of an Amateur.

It is not to drum up a little extra local business, then it surely must be social snobbery.

Which gentlemanly Amateur even cares if the owner of the honey blonde tones at the other end of the QSO is married or not—plain "Mary" would do just as well with Tom, Dick or Harry.

"M.D." states that our American brothers would class "Professor" Joe Reed as a peddler

of quack medicines. Might I point out to "M.D." that the prefix Dr. would mean to them either a foot doctor, a tooth doctor, a backbone doctor, or as "M.D." himself prescribes—a pink bill doctor.

Even "The Christian Dryman" is wrong

when he states that the vocation of a minister of religion is not a profession as according to social snobbery the three top professions embrace the Law, the Army, and the Clergy, that order.

—J. F. Pickles, VK4FF.

(The Publications Committee receives the suggestion regarding a pink page section in the Call Book has not met with favour and therefore closes correspondence on this subject.)

Editor "A.R." Dear Sir.

Please allow space to reply to the various queries following publication of my letter proposing a special section of the Call Book . . .

Personally, I do not expect that Amateurs will bestir themselves to make an equivalent of the pink pages possible for the Amateur Call Book. Today the experimental urge and spirit of originality seems to have withered beyond recognition . . .

—J. G. Reed, VK2JR.

THIRD PARTY TRAFFIC AND EMERGENCIES

Editor "A.R." Dear Sir.

One of the points most frequently brought up in favour of Amateur Radio operation is the fact that Amateurs can be useful in providing communications in emergencies. The importance of this is borne out every month in "QST".

If the P.M.G. Department recognises this as one of the reasons for our continued existence, it seems a pity that we, as Amateurs, are not given more opportunity to become proficient in message handling. I refer, of course, to third party traffic.

If a group of Amateurs, few or none of whom have had the opportunity of handling messages in an organised net, were suddenly to find that they are the only means of communication and the only hope in an emergency area, the result would probably be a shambles, or at best a most inefficient system.

If, on the other hand, those Amateurs had been able, over a period of time, to develop a smoothly operating system of nets and traffic routing, the result would be much more beneficial to the public, and much less confusing to the Amateurs concerned.

The National Traffic System, which operates throughout the U.S.A. and Canada, is a good example of what can be done by Amateurs if not netted into a system. It meets at least once a week; some meet twice each evening, and a large amount of traffic is handled for Amateurs and for the general public. The result is considerable favourable publicity for the Amateurs who in turn become proficient in message traffic handling and enjoy doing it.

I realise that the W.I.C.E.M. organises practices for its members, but this is not enough to develop a good system.

First nets should meet at least five times a week and should be integrated into a traffic system covering the whole country.

Second, c.w. is the only efficient mode for handling traffic—but that is another story!

The P.M.G. Department has, I believe, a monopoly on communications in this country. Since the Department issues us our licence, shall we not gain our third party traffic privileges? Surely it cannot but be that they are afraid of the competition we would give them, because:

(a) The total number of messages handled by Amateurs would be a negligible part of those handled by the Post Office.

(b) We would be operating a purely voluntary system, without charge, and could therefore give no definite guarantee of delivery.

(c) The P.M.G. could restrict our traffic (as is done in Canada) to messages of a non-commercial nature.

The extremely small loss in Post Office revenue due to some messages being handled by Amateurs instead of telephone or mail would be more than offset by the value, in times of emergency, of the communications system that we could build up.

Can we hear some opinions on this, either in the form of those who have missed his mighty sessions on the B.C. Emergency, Seventh Regional, and Pacific Area nets?

—Ben Pooley, VK5BP.

T.V.L. AND THE G.D.O.

Editor "A.R." Dear Sir.

I wish to add my support for the inclusion in May "A.R." of the T.V.L. Diagnosis Chart and to the author of same whom I believe simplified the original article from R.S.G.B. t.v.i.

(Continued on Page 15)

OVERSEAS TRIBUTES TO LATE JOHN MOYLE

The following tributes to the late John Moyle, VK2JU, have been received by the W.I.A. Federal Executive from overseas Amateurs:

Dear Mr. President,

It was with profound regret that I heard the sad news of the passing of John Moyle, VK2JU. I was on the British Delegation in Geneva and got to know John extremely well. He really did a first class job in Geneva and I would like very much to let you know how good an advocate he was. Without doubt he furthered the Amateur cause. He did not spare himself, was well informed, and made his presence felt with tact, but none-the-less with firmness. Australian Amateurs, and indeed, all Amateurs are indebted to him. To hear of his death, you can well understand was quite a shock. I feel we have all lost a sincere friend in Amateur Radio.

I trust you will accept this little note as an appreciation of John and his work.

—L. E. Newham, G6NZB,
President, 1958, R.S.G.B.

Dear Fellow Amateurs,

Through J. Claricots, G6CL, I have just learned that our good friend, John Moyle, VK2JU, passed last month. I send my sympathies to his wife and family.

I had the good luck to meet him at Geneva and to witness the splendid way in which he assisted the cause of Amateur Radio. His death is certainly a great loss to the fraternity and I have been extremely sorry to hear about it. Please be so kind as to pass my condolences to the relatives of the deceased.

—Otfried Lubrs, ex-DL1KV,
Member I.A.R.U. Delegation.

Dear OM,

It is with great regret that I have to acknowledge receipt of your letter of 16th March, 1960,

reporting the sad news of the death of John Moyle, VK2JU, and the sympathy of the members of the Society in this great loss is extended both to the W.I.A. and through to his family.

My own personal sympathy is tinged with the great regret that I failed by a few short hours to meet John in Switzerland last year while on a conference.

Many thanks to you and to all your officers for the excellent performance in maintaining, if not status quo, then as near to it as could possibly have been achieved in the recent I.T.U. Conference regarding Region III.

—G. A. Cuppleditch,
President, Hong Kong Amateur Radio
Transmitting Society.

MRS. MOYLE'S SINCERE THANKS

The Federal President (Mr. Hull) of the Wireless Institute of Australia received the following letter from Mrs. Moyle:

Dear Mr. Hull,

Would you kindly convey to the Federal Executive and the Federal Council of the Institute my sincere thanks for kind messages and expressions of sympathy in our recent bereavement.

In this time of sadness it has given me much comfort to know of the high esteem in which John's contributions to the W.I.A. are held for, as you must well know, the Amateur cause was always very close to his heart.

(Signed) Alice Moyle.

R.D. CONTEST, 1960, RULES

(Continued from Page 9)

To the average of the top six logs shall be added a bonus arrived at by adding to this average, the ratio of logs entered to the State Licensees, multiplied by the total points from all entries.

Example:

Average of the top six logs +
Logs Entered \times Total of Points
State Licensees from all Entrants

Acceptable logs shall show at least five valid contacts.



"The Amateur is Balanced."

CONTACTS WANTED FOR SCHOOL RADIO CLUB

Shown in the photograph are two well-known junior operators, John (at left) and Mick (right), at the St. Joseph's Technical High School Radio Club station, VK2AXX/P. It is a "junk-box" rig, 40 watts to a 6146, dipole antenna.



The boys are on 40 metres nearly every day at 1245 and 1545 hours, but the bands are not well populated at that time of day, so anyone who can give the station a call will be doubly welcome.

WANTED! ARTICLES

Can you write an article for "Amateur Radio"? How about one for Hints and Kinks?

CORRESPONDENCE

(Continued from Page 14)

articles. It is clear and concise and should help everyone in need of a plan to overcome Amateur interference to t.v. reception.

One comment I wish to make regarding the article is with respect to using the g.d.o. as an absorption wavemeter for the detecting of spurious signals.

It would appear that where the Amateur has used a g.d.o. for this purpose, the amount of sensitivity attained by the instrument is often lacking, as instanced in a case recently where a well known commercial make could register a dip at 200 Mc. in the final tank but no trace could be located using same as a wavemeter, yet the fourth harmonic from 50 Mc. caused a cross hatch on Channel 9 over 150 ft. away.

However, using a super regenerative receiver (well shielded) an S9 signal was heard over 200 ft. away. It would appear that over a simple superregen could be used as a detector, provided sufficient spectrum could be covered. Another, even better arrangement, could be a modified t.v. tuner ahead of a normal I.F. system providing audio output. A metered indicator could be provided which more effectively source of identifying spurious signals.

The same instrument might provide, by means of a suitably switched range, comparative measurements of field intensity, both of the Amateur signals and t.v. signals for testing the amount of spurious signal in the t.v. channel. It can safely be said that even a relatively small amount of signal inside the t.v. channel will cause cross hatch and where it is in relation to the picture carrier and its relative strength will determine the degree of interference.

It would be good policy if each Division could arrange for someone (or some groups) to construct such a device (call it what you may), to assist in the tracing down of harmonics from Amateur Stations.

—L. Poynter, VK3ZGP.

SWL

Maurice Cox, WIA-L3055
Flat 1, 37 Bond Crescent,
Olympic Village, Heidelberg,
N.S.W., Victoria.

Hi chaps. This is your scribe again with the news of the s.w.l.s. of Australia.

I would like to start this month with a group of news. Tuesday, 19th April, a visit was arranged to the premises of the A.B.C. at Melbourne, but only seven members were present to witness a very interesting and instructive tour of installations and studios. The unfortunate part of the whole evening was the poor attendance.

The organising committee is most disappointed with the lack of attendance at the two visits that have been arranged this year. An interesting number of visits has been planned for the next twelve months and your attendance would be greatly appreciated. Please don't hesitate. I mean to say, after all, they are for you, aren't they? So how about it chaps?

If you have a particular place in mind that you would like to see, please get in touch with Ian Woodward at 24 Fewster Rd., Hampton, S.T.

Now for some interesting letters; firstly, from Eric Treblecock, L3026. He says: "My QSLs are now up to 255 QSLs in 40 zones confirmed." Last month he told us he had added five new ones to the received QSL confirmed list and this month has added one more; last month's newbies were Cape Verde Islands C4RA, C4RA, C4RA, Islands VK3A (that's our President Mike Ide received one from Willis after waiting for five years). Br. Virgin Islands VP2VG, Turks and Caicos Islands VP-SME, Chatham ZL3VB and ZL3VB/3 on 9/4/60; he had a QSL direct from DL5PFT for his report on Austronics XP1000 which was operated by DL5PFT and two others. So you can guess that he is quite happy with his QSLs of the past few weeks.

In just a few days of April, he received 44 QSLs, of which nine are XP1X, CQZPC, MPAAF and YV2BT. He has now 47 of the 48 States QSLs for the American H.A.S. certificate. He just received Montana WTHWC, but still needs North Dakota. Then he'll have the 48 States. The 1959/60 DXCC is now one on 7 c.w. but guess it is very doubtful. — For those who said he was in New Guinea, he didn't give actual QTH or whether Dutch or British New Guinea HL. And furthermore, it was at 5.30 p.m. here so guess it more likely to be a VK position, one.

On 7 Mc. he hasn't heard one European this month, but he's heard a few Ws and SA's. Still he had carried out his earlier statement that he wouldn't listen on 7 Mc. except that he'd had to put them there and again for short periods. At end of last month two good ones heard on 7 Mc. c.w. were VS9OA and VS1KE.

On 14. Mc. this month he's made nearly 500 contacts in 14. Mc. with some of the 500 QSLs being DU1AW, UZ1AC, H1RKC, 1B1DKL, UZ2AI, KV4A, PJ2AE, PY4ZG, PY1STA, UZ1AC, U1AKA, VK4KGK, VK00T, YV-SFH, SZM2BK, 9GMU, 9MF2S, K1LHJ/MN near the Panama Canal.

There is nothing Eric, always glad to hear from you about your doings, etc.

One from Dave Jenkins: it's a long time since we have heard from him and his reports that he hasn't been doing particularly much of interest in the s.w.l. field, but does manage to put in a few hours DX chasing from time to time. He has heard quite a string of 80 mc. x.w. Europeans during February between QSL and 0545 our time. Due to power supply trouble, he has been doing little listening this month. He has been doing some DX in last month's DX page. Dave's rx is a two-tube converter feeding into No. 2 rx at about 2 Mc. Antenna is a long wire with one end hooked to a barbed wire fence, so it might be heard by the police. He has no news with the South Africans in the SWL contest, never heard even one; QTH N.D.G.

Here is a bit of news from Don Grantley. He reports "Had a good trip back home, a train slow. The weather was too bad, so had a bumpy Saturday morning in the city, rushed out to Croydon, not even having time to see Mac, then over to Ian's and on to Carrum where we stayed the night, returning home about 1 p.m. Sunday. Did some local visiting on Sunday p.m. Monday a.m. visited my

old pal VK3OO at St. Albans, then over to Treb's for afternoon tea and a yap. And we yapped! Treb is in favour of a single group and will address the boys any time he can." Unfortunately he was unable to have any more time with me, but plans to get down again by himself in the not-too-distant future.

Now back there, all is well, he's in business again and the ART is doing very well. He has full coverage on 14. Mc. 80 mc. and 40 mc. box is handspread and from 160 to 330 on the dial covers from 14 to 14.4 Mc. The general impression of this particular ART is that it is fairly good, being fortunately free of images on 20, which you realize is a big selling point. And the whole thing is fairly stable. To sort out his QSLs he has several small clips and keeps the cards hanging on these, one for each of the following Bureaux: VK3, R.T.C.B., I.S.M.L., Box 88, J.A.R.L., W2CTN with whom he has a arrangement now via TRS.C.B. and I.S.M.L.

Don has an idea, which if it could be done, would be of great assistance to our members and to those of other States. That is the printing and selling of s.w.l. cards, designed by somebody who knows what he is doing and made available to members of the Group at a reasonable cost. It would do three things, firstly make sure good reports went out; secondly, would swell the profits a bit, and finally lessen expense for those of us who have to get them made. It would require at least 2,000 per year after the new Americans arrive, and he is sure there are many others who would use large amounts.

OVERSEAS S.W.L.S.

The monthly mail bag here usually contains some letters from overseas listeners, some enquiring about our non-existent awards, others wanting information on listening in this country, but whatever the differences in the letters, there are all unanimous on one point—the Australian Listener is a very lax in his listening reports. This may be the case, but I have a feeling that most of these chaps are at fault themselves. Some of the reports I have seen are a disgrace to the hobby, more so than some of the American QSL cards I have received. The American listeners I have heard here in Australia are, on the whole, building a good reputation for the quality of our reports; keep it up chaps and maybe as our cards go overseas they will be noted and commented on to overseas listeners who may well catch on. Personally, I have no complaint with the Australian Amateur as far as QSLing is concerned. I have had an extremely high percentage of returns from our Hams and the reports contained in many of them are most helpful and encouraging. There are a few snags about, but they are better forgotten; the average chap will help us along our not-so-easy way.

AWARDS

The DX Century Club or DXCC is becoming rather common these days, there are several for the listener, but there are the sake of simplicity I will mention the I.A.S. award of rules on the subject: "This award is made available to members of the above club, who have received confirmations from 100 countries of the world." As simple as that, but the stipulation in case of the I.A.S. is that the applicant must be a member of their League. Other clubs have their own rules, and it is to be noted that the proposed VK awards have provision for DXCC to W.I.A. s.w.l.s. Please note that the I.A.S. award is very strict, the address is 87 Barrengreen Rd., London, enclose 21/- sterling for membership; awards of this nature are issued free. Check list endorsed by the W.I.A. is necessary, and cards are not to be sent.

DX NEWS

Nothing really important to report this month. ZD3S is a pirate. VRTSC should be on from Pitcairn Island by the time this reaches you. FG7XC; cards outstanding from this fellow can be obtained from W6GJY who has the best such list. For the month of April, W1BWB QSL via W4WKC. LASRG/Tp's mail is slow so do not despair if you want a card; last clearance was in January; next late in May. W1BB has been heard in Leningrad on 16 mc, but so far no dice here.

SOUTH AUSTRALIA

Firstly, I would like to congratulate a 16-year-old lad, Colin Hutchesson, who won the recent section of the N.F.D. with 770 pts. On behalf of the VK s.w.l.s., we offer you our congratulations for a mighty fine job well done OM.

Now to their news and doings. He hopes he's not too late with the news as unfortunately he has done very little this month regarding the Ham bands and he will be away

over Easter so things will be very quiet there. Dale L4265 is very inactive also lately, as his parents are building onto their house, but he has antenna poles painted ready to be erected.

Gary Smythe, L5026, is a young member of the S.W.L. Group who is 16 years old and very keen on short wave listening. For his rx he uses a dual wave set tuning the 10 and 15 mc. bands. Antenna is a half wave on 7 Mc., centre fed, with 3 inch spaced feeders (same as used here) and about 30 ft. in the air. Have not contacted Fred (L5021) this month, but will do so as soon as possible. Some news from Adelaide for the next month.

Thanks once again Colin; keep up the good work, it is very much appreciated.

NEW SOUTH WALES

Now here's a letter from Peter Carter, VK2ZPC-L2014, which will interest all s.w.l.s. in VK land.

In the February VK3 Bulletin the S.W.L. Secretary outlined the state of affairs in that Group—especially concerning activity, or the lack of it. When related to the number of 180 odd members, this inactivity appears worse than deplorable. Now, may I suggest some reasons for it?

Among the 180 are many who were given W.I.A. Listener Numbers although they had no interest in specifically "listening", sending out report or collecting QSL cards. I submit that at least some members who joined the Association only to make easily become licensed Amateurs, actually had Listener numbers "thrust upon them". However, having thus become part of a Listener Group I am sure some members would be interested in practical help in building and adjusting communications-quality receivers or perhaps refining existing ones. As things happened though, the assistance seemed hard to seek out, and for newcomers to a fairly specialised field, seeking-out can be very difficult.

As often is the way greatest help was probably given by some willing individual who had Operated in a group where the new Associate knew one with the time, interest and patience. Newcomers lacking such a contact and needing this help, may easily have lost a lot of interest. Of course, few of these things affected ham-minded experienced listeners who probably think the hobby is to be even more efficient and prolific. We see repeatedly the same few members supplying lists of stations and countries heard, etc., and providing VK3 with most of the points in contests. Which leads to the next matter.

If members of the S.W.L. Group who have not tried their hand (and ear) in a contest, especially the R.D. Contest, could have even a short practical demonstration of "how to do it" I am sure the number of entries from VK3 would increase. Last year, according to "A.R." Dec. 1959, there were only 20 eligible logs from N.S.W. listeners. Even if the extra 40 listeners each logged for only ONE hour out of the whole contest—imagine the result! May be those extra 40 would like that practical "demonstration". I am sure that most, if not any of the other points I have mentioned, if the listeners concerned would write to the S.W.L. Secretary at 14 Atchenson St., Crown's Nest, that member would know, be put onto the right track. At the same time writers to the Group Secretary give the executive an index of their success or otherwise in their manner of handling Group matters. Without that sort of gauge they have no real way to measure the progress and frustration for a hard-working executive not to be able to see the result of their work.

The holding of meetings in the new St. Leonard's quarters will, I feel, do a lot to improve matters in the technical and practical assistance field where such is required. The amateur and the Amateur Radio Institute will be there and the gradual improvement of the Licensed Amateur's attitude towards the "professional" listener and the "trainee amateur" listener must cause a re-entry of activity into the Group.

Letters (brought in by brickbats) from the build of members not normally heard from are sure to be welcomed by the S.W.L. Secretary. It would be a loss to the Institute and a great pity in general if the Group was to be disbanded.

DX LADDER

	Heard	Confirm.	Zones
L3042 Eric Treblecock	265	233	48
L3063 Don Grantley	192	54	28
L3055 Maurice Cox	170	27	18
L3056 Rod Mc Gouran	188	106	36
L3074 Bill Hilliard	97	51	—
L3065 Ian Thomas	118	16	13
L3015 Mike Ide	98	27	—
L3072 Tom Haywood	72	8	—
L3006 Ian Woodward	4	1	1

PREDICTION CHART, JUNE '60

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FEDERAL

Fed. President: G. M. Hull, VK3ZS.

Fed. Assistan. Secretary: W. Mitchell, VK3JUM, P.O. 2811W, G.P.O., Melbourne, C.1. Vic.

Federal Council: Mr. G. S. Williams, VK3AW, Victoria—Alan Elliott, VK3AEL.

Victoria—Alfred Hinkler, VK3AAO.

South Australia—L. H. Duncan, VK5AX.

Western Australia—Bob Eccles, VK5KW.

North Western—J. Cross, VK5EC.

Papua-New Guinea—Russ Colleton, VK5BK.

Fed. Contest Committee: Alex Hubbard, VK5TAX, Manager, Box 851J, G.P.O., Hobart, Tas.

QLS Bureau: R. E. Jones, VK3RJ, 23 Landsdale Street, Box Hill, E. 10, Vic.

Awards Manager: Alf Kiskiss, VK3KB, 1 MacFarland Street, Brunswick, N.10, Vic.

NEW SOUTH WALES

President: Ted Whiting, VK2ACD. Address mail to: P. O. Box 14 Aitchison St., Crown Nest, N.S.W.

Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.

Divisional Sub-Editor: Max Pleiter, VK2MP, 122 Pitt St., Sydney.

QLS Bureau: 14 Aitchison St., Crows Nest.

Frank Hine, VK2OL, Manager; assisted by

Alfred Smith, VK2AII.

Zone Correspondents: North Coast and Tablelands: Ned Hansen, VK2ANH, 120 Victoria St., West Kempsey; Hunter Branch: J. W. Ross, VK2AQR, 17 Brooks St., West Wallsend; Coalfields and Lakes: H. Hawkins, VK2YL, 9 Connor Av., Cessnock; Western: W. T. Morris, VK2WV, "The Hollows," 20th Street Coast & Southern: E. Fisher, VK2DV, 2 Oxlands St., Warrawong; 548 Western: J. W. S. Edge, VK2AJQ, Wallace St., Coolamon; Tammerworth: S. Smith, VK2APS, 50 Upper St., Tamworth.

FEDERAL

L.A.R.U. YEAR IN REVIEW

The big event of the year was the successful conclusion of the Ordinary Administrative Radio Conference in Geneva. Although there were several serious outbreaks of the amateur bands, American delegations from the conference with practically all the priviledges granted unreservedly to the Atlantic City. The loss of 50 kc. at 60 metres (in Regions I and III) is indeed unfortunate, but hopefully this should be less disastrous than the "excuse" of Amateur bands which remains at 7.0-7.1 Mc.

It is clear even to the casual observer that the excellent DX conditions which have existed during the past two years are on their way out, with the downturn in the sunspot cycle.

Nevertheless, the amateur bands have been very good, and a great many QSOs have taken place internationally on the 16, 15 and 20 metre bands. Conditions should get progressively poorer on these bands during the next few years, but at the same time more DX should be available on the 40 and 20 metre bands.

While the h.f. bands showed signs of quietening down, experimentally-minded Amateurs have continued progress on the Very Highs. WENLZ in California worked KH6UW in Hawaii on 220 Mc. The new record of 2,540 miles set on June 20, 1959, is still unbroken. WENLZ set a record earlier by SMM3NR and G3KEQ on June 13. W6DQJ and K8AXN hold the record on 1215 Mc., having covered 400 miles on June 14. On July 24, W7JIP/7 and W7LHL/7 worked 187 miles in the 1000 Mc. band.

Interest in the Worked All Continents Award remained high, with 1,811 certificates being issued. 144 of these for continents, combined with 2,425 total and 986 phone in 1958. There were 105 endorsements for single sideband, 11 for 50 Mc., and five for 3.5 Mc., as against 100, 16, and six respectively. The QSL cards submitted by the W.A.R.U. applicants represented work done entirely by radioamateurs, though no special recognition has yet been made up for this mode.

Membership in the Union stood at 54, with no admittance during the year, but an application for membership is presented in the Calendar on behalf of the Society of Amateurs. A portion of the time of six A.R.U.L. employees was devoted to the handling of L.A.R.U. affairs.

—Extract from the L.A.R.U. Calendar.

SUMMARY OF I.T.U. MONITORING REPORTS

Here is a summary of unauthorised stations heard in the Amateur bands during the period May through October, as reported by the International Frequency Registration Board. Stations operating in accordance with the Atlantic City Convention (1947) are not reported.

NOTES

VICTORIA

President: D. A. Wardlaw, VK3ADW.

Secretary: J. R. Lancaster, VK3JL.

Address: 261 Victoria Parade, East Melbourne, C.2.

Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Technical College.

Divisional Sub-Editor: P. D. Williams, VK3JZ.

QLS Bureau: Inwards and Outwards—W.I.A.

Vic. Div., P.O. Box 36, East Melbourne, C.2.

Zone Correspondents: Western: W. J. Kinsella, VK3KWW, 100 Mildura, Lubbeck, South Western:

W. J. Williams, 49 Grange St., Warrnambool, F.2.

North Western: M. Folie, VK3GZ, 161 Lemon Ave., Mildura; Midlands: R. Jonasson, VK3ND, Farnsworth St., Castlemaine; North

Eastern: T. K. Tennant, Park St., Tatura; Eastern: W. G. Francis, VK3ZC, 50 Windsor Ave., Moe.

QUEENSLAND

President: W. J. Rafter, VK4PR.

Secretary: J. G. Armstrong, VK4SA, Box 638J,

G.P.O., Brisbane.

Meeting Night: Fourth Friday in each month at the State Service Union Rooms, Elizabeth Street, Brisbane.

Divisional Sub-Editor: W. J. Rafter, VK4PR.

Willandra St., Alderley, Brisbane.

Stations heard in the Amateur bands only once or twice during the six-month period are not reported either.

FREQUENCY

Kc. Call/QRA Signal Nationality

3783 EQD/EGQ Broadcast Iran

7007 Validold Broadcast Spain

7008 — Broadcast Pakistan

7012 — Broadcast Spain

7014 HM21/22/23 Automatic AI Korea

7050 Cairo Broadcast U.A.R.

7050 — Broadcast France

7072 Madagasci Broadcast Somalia

7080 Bangkok Broadcast Thailand

7085 & — — — —

7090 Ioannina Broadcast Greece

7095 — Broadcast Spain

14200 — Broadcast U.S.R.

14265 RIF37 Multiplex FI U.S.S.R.

14288 Tanger Broadcast Morocco

14314 4XG33 F1 (Parasitic) Israel

7140 Tirane Broadcast Albania

14420 LCP Al (Harmonic) Norway

2102 VNB48 Automatic Al Australia

21245 MBR F1 (Harmonic) England

21290 — F1 U.S.S.R.

21450 OLRTA Broadcast Czechoslovakia

(The U.S. State Department says that OLU is operating legally at 21,001 kc. Table, since Czechoslovakia did not sign the Atlantic City Convention.)

—Extract from the L.A.R.U. Calendar.

FEDERAL QSL MANAGER GOING OVERSEAS

Mr. Ray Jones, VK3RJ, Federal QSL Manager, accompanied by Mrs. Jones, will be leaving the shores of their native land in August for a six-months trip abroad. Ray proposes to call on a few of his DX friends during his trip if his itinerary permits.

During his absence, world renowned short wave listener, Mr. Eric Treblecock, BERS16, will carry on the duties of the Federal QSL office.

Federal Council wish Mr. and Mrs. Jones a successful tour and a safe return in due course.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3VA—W. B. Bridger.

VK6BC—Bert Congdon.

QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda.

Zone Correspondents: Maryborough: R. J. Glassop, VK4BG, 80 North St., Maryborough; Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

SOUTH AUSTRALIA

President: P. E. Brice, VK5OK.

Secretary: J. C. Haselein, VK5JC, Box 1234K, G.P.O., Adelaide. Telephone: M 7851.

Meeting Night: Second Tuesday of each month at the Hotel Victoria, 125 Victoria St., Adelaide.

Divisional Sub-Editor: W. W. Parsons, VK5PS, 19 Victoria Ave., Rose Park, S.A.

QSL Bureau: G. Luxton, VK5HX, 27 Belair Rd, West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: L. Roeger, VK3ER.

Secretary: L. S. Eddington, VK5LS, Box N1002, G.P.O., Perth, W.A.

Meeting Night: Third Tuesday of month at Perth Tech. College Annex, Mounts Bay Rd.

Divisional Sub-Editor: P. Haywood, VK5FH, 2 Bantam St., Queen's Park, W.A.

QSL Bureau: Jim Rumble, VK5ERU, Box F191, G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: T. Allen, VK7AL.

Secretary: E. Millin, VK7KA, Box 851J, G.P.O., Hobart.

Meeting Night: First Wednesday of each month at W.I.A. Clubroom, 147 Liverpool St., Hobart.

Divisional Sub-Editor: L. Nichols, VK7ZY, 8 Cressey St., New Town, Hobart.

QSL Bureau: Jim Baker, VK7JB, 39 Willowden Ave., Lower Sandy Bay, Hobart.

Zone Correspondent: North Western Zone—Terry Tong, VK7TT. Northern Zone—Walton.

FEDERAL AWARD MANAGER RETIRES

After five years of service to the Federal Council as Federal Awards Manager, Gordon Weynton, VK3XU, has, due to circumstances beyond his control, found it necessary to resign his important post in the F.A.C.

During the five years in office, Gordon has given to the task of keeping of records of Awards—both national and international—the same painstaking care as he devotes to every other hobby he has pursued in other spheres. On behalf of Federal Council best wishes are extended to Gordon and sincere thanks for the work he has carried out.

Alf Kiskiss, VK3KB, will be taking over the Awards Manager's office as from June 1, 1960. In Al's new office many will be familiarised with the necessary knowledge for this duty and we ask all those who submit cards in confirmation of the various Awards to do so in accordance with the rules pertaining to the particular Award, that making the work very much easier, at the same time precluding the possibility of delays in receiving your certificates.

Claims for Awards are now to be forwarded to Alf Kiskiss, VK3KB, 1 MacFarland Street, Brunswick, N.10, Vic.

FEDERAL QSL BUREAU

The annual contest of the L.A.R.U. (Brazil) is set for September 1st to October 31st. For c.w. from 0001Z Saturday to 3400Z Sunday on the first week-end in that month. For phone, the times are similar but on the second week-end. Logs to "L.A.R.U. Contest Commission," Cachão Postal 2333, Rio de Janeiro, Brazil. Full details may be had from the Federal QSL Bureau.

For the information of the numerous applicants for the 1960 issues of "CQ" mentioned in these notes in May "Amateur Radio," it is to be noted that the first applicants were VK3XU and VK2GJ. As their letters were sent in the same mail, the issues were divided between them. Glad to know that somebody reads these notes.

Once the most sought after South American DX stations is OA4KHF whose operator, Evert Kaledvald, is ex-PAGEONE and ex-QATL. Evert is a railway engineer employed on the highest railroad in the world. It reaches a top altitude of 13,550' repeat 13,550' feet above sea level. OA4KHF uses a 100' mast and a 100' wire antenna which he finds is all that is necessary to contact the world. He will QSL all contacts and useful reports via P.O. Box 5500, Lima, Peru. (BEP/1960).

Since Willis Island was constituted a separate country, have had many requests for the present address of VK4SQ who was located at Willis Island in 1948. Can anyone supply please?

—Ray Jones, VK3RJ, Manager.

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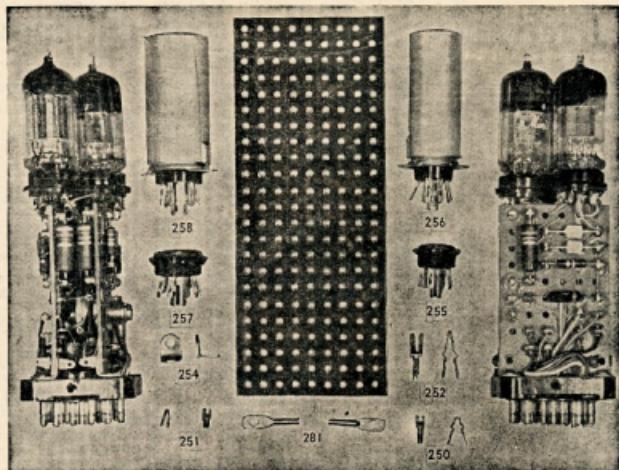
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The discovery of copper is veiled in mystery, for how primitive man could maintain sufficient heat long enough to smelt copper ore is hard to tell. Nevertheless, copper was discovered, soon followed by bronze, which was suitable for tools and weapons of war, Roman arms and armour being made almost entirely of it for most of the Roman era.

Iron was known over 3,000 years ago, but was not used widely until much later, when the peoples of Eastern Europe, the Caucasus Mountains and the shores of the Black Sea discovered a method of tempering. Gradually iron displaced bronze, until today it is the mainspring of our civilization.

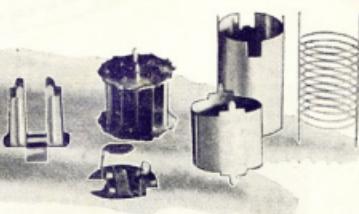
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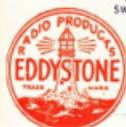
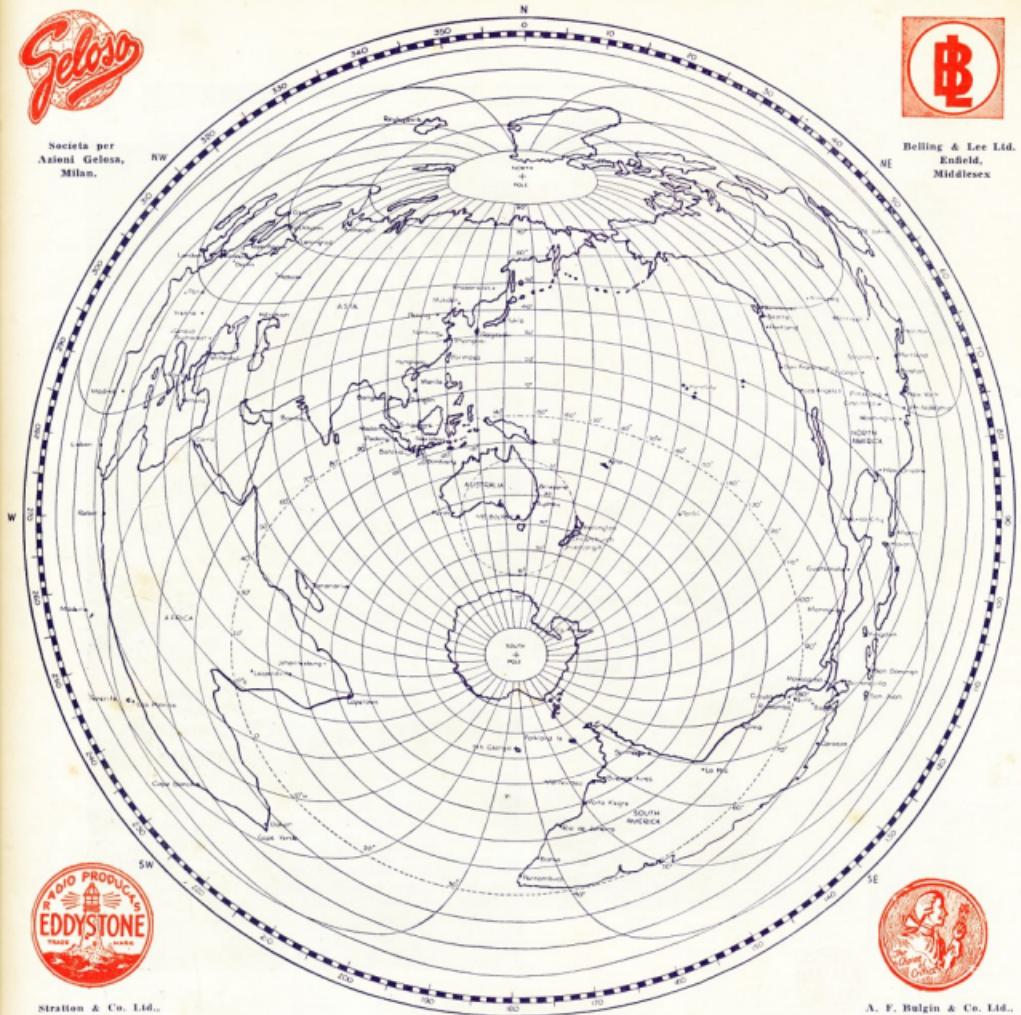


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